A Letter from the President and CEO

I stepped into the role of President and CEO on July 1, and now more than ever in my fourteen-year tenure at The Franklin Institute, I marvel at the ways science and technology learning have the power to instill wonder, and to create new opportunities.

Over the course of a busy summer after the opening of the Nicholas and Athena Karabots Pavilion in June, I often walked around the building and watched education in action—children filling the Neural Climb in the new Your Brain exhibit, families amazed by the Liquid Air live science show, and students participating in hands-on workshops dissecting sheep hearts and learning how to be scientists themselves.

It is difficult to summarize the Institute's activities for one simple reason: so much is happening. From educating visiting school groups, to providing hands-on science activities for afterschool programs in libraries, to preparing for next year’s Franklin Institute Awards Ceremony and Dinner, our staff, volunteers, students, and educators are constantly at work on a wide range of projects. As Institute supporters, you already know about some of our efforts, but here are three others we’re excited about right now.

• We are facilitating conversations about the brain and society. Our new series Conversations about Neuroscience and Society began in September, and each month brings scientists and other brain experts together to explore how what we are learning about the brain affects our everyday lives. The next lecture on January 27 is an opportunity to discuss Alzheimer’s disease and its neurological and social impacts. Check our website www.fi.edu for more details.

• We are key to the effort to spread science festivals across the country. As the lead partner of the Science Festival Alliance (SFA), the Institute shares lessons learned from four years of organizing the wildly successful Philadelphia Science Festival with other museums and organizations around the country. Last year 200 partners offered more than 80 events over nine days—the SFA provides opportunities for others to learn how our team helps so many organizations successfully work together, and for us to learn lessons as well. This work is supported by a grant from the National Science Foundation.

• We are expanding our resources for visitors with differing abilities. Thanks to the Barbara Brodsky Access Initiative, we are welcoming visits from schools and camp programs for students with learning, physical, and behavioral disabilities. Special programming for these students such as lowering the volume of noises in the exhibits and providing quiet times for visits allows everyone to have a meaningful and safe visitor experience.

These three initiatives are just a few of the ways The Franklin Institute is continuing to forward our mission to inspire a passion for learning about science and technology. Our work reaches into neighborhoods across the city and the region, and will continue to expand in creative and engaging ways in the community, and online. This work would not be possible without your generous support, which is critical to sustaining both our core exhibit offerings and programs that make resources available to underserved communities. Thank you for everything you do to make The Franklin Institute a leader among science centers, and a force for STEM education in Philadelphia and beyond.

Larry Dubinski
President and CEO
Did you know that a bull’s heart is five times larger than a human heart? That chickens can travel up to nine miles an hour? In Gunther Von Hagens’ BODY WORLDS: Animal Inside Out visitors can embark on an anatomical safari and explore the intricate biology, zoology, and physiology of the world’s most spectacular creatures. This new exhibit demonstrates through incredible preserved specimens how intricate the blood vessels of animals are, what the muscular system, body parts, and various organs of different animals look like, and how they compare to other animals as well as to human bodies. From goats to giraffes, squids to sharks, and octopuses to ostriches, the creatures large and small in this limited engagement exhibition will astound you with their beauty, power, and complexity. Learn about the anatomy of animals and how each species, exotic and familiar, plays an important role on our planet. BODY WORLDS: Animal Inside Out is on view through April 12, 2015 in the new special exhibit gallery of the Nicholas and Athena Karabots Pavilion.

This exhibition is made possible through cooperation with various veterinary programs, zoos, and animal groups. No animal was harmed or killed for use in this exhibition.

Sesame Street Presents: The Body gives younger visitors an exhibit just for them to learn all about their bodies, from the inside out. Featuring Elmo, Oscar, Grover, Bert, Ernie, Count Von Count, Cookie Monster, and the rest of the Sesame Street characters, children learn how their bodies work as they hop, jump, run, and dance through this hands-on Sesame Street adventure. Guests can wheel, row, and run through Rosita’s Locomotion station and feel how their bodies work performing different modes of transportation. Kids can also learn about germs under Oscar’s giant Sneeze Machine, and hang out with Elmo and learn why exercise and eating healthy foods are the keys to growing up big and strong. See all of this and more at this fun interactive exhibit, Sesame Street Presents: The Body in the Mandell Center through January 4, 2015. Sesame Workshop®, Sesame Street® and associated characters, trademarks and design elements are owned and licensed by Sesame Workshop © 2014 Sesame Workshop. All Rights Reserved.
On June 12, the Nicholas and Athena Karabots Pavilion opened with a fabulous gala celebration showcasing the building, the new Your Brain exhibit, and special previews of the summer’s two traveling exhibits, *101 Inventions That Changed the World*, sponsored by TE Connectivity, and *Circus! Science Under the Big Top*, sponsored by PECO. The festivities began with cocktails in the education and conference center, and continued in Franklin Hall with the first-ever screening of a new (Emmy Award-winning!) video about the Institute’s past and future. After a youth drum line called the crowd to attention, the ceremony began, and when the doors to the Nicholas and Athena Karabots Pavilion opened, the crowd in attendance streamed inside. Students from the Institute’s PACTS and STEM Scholars programs led tours throughout the space, and guests enjoyed tapas, several live bands, magicians, living “statues” of Franklin Institute Award winners, and the knowledge that Philadelphia’s science and technology learning resources had just expanded in wonderful ways. More than 7,500 visitors enjoyed the new building on its opening weekend. If you haven’t yet experienced the Karabots Pavilion, book your visit today!
“...Philadelphia’s science and technology learning resources had just expanded in wonderful ways.”
FMC Donates Expertise to Teacher Professional Development

FMC Corporation—headquartered in Philadelphia—is a diversified chemical company that has been serving agricultural, industrial, and consumer markets globally for more than a century using unique solutions, applications, and quality products. Through FMC Corporation’s generous support, the Institute offered a number of teacher professional development sessions this summer.

During the full-day professional development sessions held here at the Institute, teachers explored everything from hands-on science activities involving chemistry, astronomy, and other topics, to discussions with teachers on how to inspire their students to enter STEM fields. FMC’s Global Technology Manager: Product, Process & Analytical, Dr. Parminder Agarwal, spent one of the teacher professional development sessions discussing various pedagogical methods that resonated with him and that have the potential to spark students’ interests in the sciences. His presentation also taught the group about the many different jobs that are available in STEM for students of all backgrounds and abilities and discussed how teachers can help their students find the STEM field that most aligns with their interests and skills.

Director, Public Affairs and Community Relations Barbara Del Duke at FMC notes that, “FMC is committed to supporting the important work science teachers do every day. Since its beginning in 1883, FMC has been focused on innovation and monitoring its practices to stay at the top of the field. This same theory applies to how we view science learning in conjunction with teacher professional development.” This commitment is evident in FMC’s more than 30-year partnership with the Institute, which not only includes their support of teacher professional development, but also of The Franklin Institute Awards Ceremony and Dinner, and the Philadelphia Science Festival. The Franklin Institute deeply appreciates FMC’s generosity and partnership.

INTERVIEW:
Chief Bioscientist
Jayatri Das

With more than 70 interactive experiences, Your Brain is the Institute’s largest exhibit. Illuminations sat down with Chief Bioscientist Dr. Jayatri Das to learn about how Your Brain has been received since it opened to the public on June 14.

Jayatri, you led the development of the science content for Your Brain. What can you tell us about people’s experiences in the exhibit so far?

We’re still completing our summative evaluation, but I can tell you that the average dwell time—the time people spend in the exhibit—is about 45 minutes. This is a huge increase over our average dwell time of 15–18 minutes in other exhibits. Great content captures people’s attention, of course, but the design of the exhibit space also encourages people to slow down and focus on one gallery at a time.

Are certain interactives becoming known as the most popular?

Obviously the Neural Climb, an 18-foot-high structure representing our neural pathways, is a favorite, but beyond that, different people find different things in the exhibit appealing. I spoke with 20 students from Arcadia University the other day, and they each named a different favorite interactive, with very few repeats. I see families moving through the exhibit together and talking with each other about what they’re discovering, which is exactly what we hoped would happen. The wide range of content and devices gives people a lot to explore.

You consulted with many neuroscience experts about the science in the exhibit. What do they think of Your Brain?

We’ve had really positive feedback. For instance, we have a grant from the National Institutes of Health to do neuroscience education, and our scientific advisory panel visited Your Brain recently. They were delighted by the exhibit—they were even taking selfies with some of the graphic panels! I think they feel very gratified to see this celebration of their work.

How will the Institute use visitors’ interest in Your Brain to continue to explore neuroscience?

If there’s one critique of the exhibit, it’s that people would like even deeper knowledge about the brain. For example, people enjoy the Fire a Model Neuron interactive that demonstrates how neurons send signals, but they want to know what happens to that neuron if you take drugs. That’s why we’ve begun a neuroscience conversation series. We have so many leading researchers here in Philadelphia, and we’re bringing them together with others working on applying brain science research to real problems. In October we had an event titled “Born Bad? Violence, Punishment, and the Brain.” Two neuroscientists and a pediatrician discussed not just the research showing a biological basis for violent behavior, but also how to develop meaningful social interventions for at-risk youth. The opportunity to engage our audience in a conversation about how emerging research can help our community is incredibly exciting.

Your Brain is located in the Franklin Baldino, Jr. Gallery of the Nicholas and Athena Karabots Pavilion and is sponsored by Teva Pharmaceuticals. For more information on the neuroscience conversation series, see page 10.
The Franklin Institute was founded to celebrate the history and legacy of Benjamin Franklin, and hidden away from public view the Institute maintains a vast collection of historical artifacts. Many of the museum’s prized pieces reside in climate-controlled storage rooms, however, visitors can discover select artifacts like Maillardet’s Automaton on the museum floor. The Nicholas and Athena Karabots Pavilion provides expanded space to display a range of special pieces recently pulled from the curatorial vault.

On the walls of one of the new classrooms in the Karabots Pavilion is a series of photographs that chronicle the process of sculpting the Benjamin Franklin National Memorial. The statue was commissioned by the publisher of *The Evening Bulletin* William L. McLean, who made a gift to the Institute of $100,000 in the mid-1930s—the equivalent of approximately $1.6 million today. An edition of *The Institute News* from 1941 reports that sculptor James Earle Fraser “steeped himself in Franklin study and lore for three full years before he made a sketch.” The statue took Fraser another three and a half years to complete. The photographs now on display are those of Gladys Muller, who artistically documented the sculpture as it took shape, highlighting the sheer size of the project and the extensive level of detail. “I chose to depict him in the fullness of his life, wise with experience, but still strong in his curiosity for the future,” James Earle Fraser explained. Sadly, William McLean passed away before the statue was completed, and never had the opportunity to marvel at his vision, but son Robert McLean later made a gift to fund improvements to Franklin Hall, which houses the marble statue his father helped create.

The Institute is fortunate to have acquired these photographs and is thrilled to share them with visitors to the education center, especially the students in our programs who use the classrooms every day. Other artifacts on display in the Karabots Pavilion include star charts, paintings from the 1950s depicting the surface of Mars, a model of a steam engine, and more. Call Meghan Bachman at 215.448.1377 to arrange a special visit to the education and conference center to view these fascinating objects drawn from the Institute’s curatorial collection.
STEM Scholars was unknown to me until the first quarter of my freshman year at LEAP Academy University Charter School in Camden, NJ. Our counselors informed us it was for minorities who have a passion for science, technology, engineering, and math, and who would like to pursue a career in a STEM field. Day after day, I spent my lunch period working on my application. I was so nervous when my interview rolled around; I bet STEM Scholars Manager Danielle Marino could see the perspiration dripping down my face. Walking down the front steps of The Franklin Institute, I didn't expect to be one of the few chosen, so when I got the email saying I got in, I was as excited as a seven-year-old on Christmas morning. I was the only one chosen from LEAP Academy that year. I felt like I accomplished something great.

STEM Scholars gives its students many opportunities, one of them being an internship in one of the immense variety of STEM fields. My internship was at the University of Pennsylvania’s Rehabilitation Robotics Lab. I worked with mobile service robots whose purpose was to help mainly survivors of strokes to perform activities of daily living. I also had the privilege to shadow an occupational therapist, the career I would like to practice. Seeing her work with patients who overcame strokes motivated me even more to work in that field. Being able to intern for Dr. Michelle Johnson and her employees was an experience that I will never forget; I know for a fact that it will give me head start in my future education. The graduation ceremony for the first class of seniors last summer was astonishing. Last year’s class taught our class many things, but one thing I’ve taken from them is determination. Throughout the four years that they were in the program, not one of them gave up. Even through the terrifying and lengthy college process, they still made it. That’s enough inspiration to get me through my senior year.

What I’m awaiting in my senior year is, of course, June 26, 2015: my graduation day. I can’t wait to see 13 years of hard work, persistence, and determination unfold before my eyes. Being second in my class, I’m anxious to see what speech I’ll prepare for my peers. I’m ready to be sent on my way to success. STEM Scholars is made possible by the generous support of Ed Satell and the Satell Family Foundation, the UJALA Foundation, and the Hamilton Family Foundation.

Sidia Mustapha is a senior in the STEM Scholars program at The Franklin Institute, which provides STEM learning resources and college preparation and admissions counseling to 60 students each year. STEM Scholars graduated its first class in May 2014. Sidia wrote the piece below to share her experiences.
In 1944, just a decade after The Franklin Institute’s “Wonderland of Science” opened to the public and still 25 years before Neil Armstrong’s famous first steps, a young Leonard Frank took a trip to the moon in the Institute’s Fels Planetarium. He recalls a guided simulation experience called “To the Moon by Rocket Ship” that made him and his fellow students feel as if they were jetting through space, and that vivid memory has stayed with him to this day.

Years later, after raising a family in the area (including many trips to The Franklin Institute!) and an accomplished career as a urologist, Dr. Frank and his wife, Dr. Barbara Frank, a renowned gastroenterologist, took the time to review their investment portfolio, and found themselves needing to cash in a 20-year-old annuity. To avoid a heavy tax penalty, the Franks established Charitable Gift Annuities (CGA) with four Philadelphia organizations with which they feel strong connections; The Franklin Institute was a natural and obvious fit.

It was important to the Franks to give to The Franklin Institute now so that they could enjoy the satisfaction of seeing their funds do good work in the community. Additionally, establishing a CGA enabled the Franks to make a sizable contribution, with immediate tax benefits, and receive income for life. “It was absolutely the right choice for us,” says Dr. Leonard Frank. “Those quarterly checks are a great reminder of why we did what we did. It gives us pleasure to support the institutions we think are special.”

What is a Charitable Gift Annuity?

A Charitable Gift Annuity (CGA) is an agreement by which you make a gift to The Franklin Institute and the Institute in turn invests those assets and guarantees you an income for life (and if you provide for it, the rest of your spouse’s life). Thereafter, the assets will become a part of the Institute’s endowment fund or be directed to a specific program according to your request at the time you establish the CGA.

For more information about joining the Benjamin Franklin Legacy Society by establishing a CGA with The Franklin Institute, or other ways to support the Institute through your estate plans, please contact Bari-Joy Epstein at 215.448.1148 or bepstein@fi.edu.

Current CGA Rates:

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The Franklin Institute’s CGA Rates are based on your age with a minimum gift of $25,000.
Welcome, New Trustees!

The Franklin Institute is fortunate to have a dedicated group of volunteers who serve on its Board of Trustees. As of the date of this publication, 47 Trustees advise the Institute’s leadership and help to forward our mission to inspire a passion for learning about science and technology. The Institute could not accomplish all that it does without the help and support of its Trustees, and I am proud to be part of such a distinguished group of scientists, business professionals, and community leaders. The Institute welcomed six new Trustees in the last 12 months, and these talented individuals have already made their mark by helping the Institute to reach more people, to deepen connections throughout the community, and to make wise fiscal and programmatic decisions. Like all our Trustees, they are extraordinary people who generously donate that most precious of resources—time—and I am honored to welcome them to The Franklin Institute family.

—Chair of the Board of Trustees Donald E. Morel, Jr., Ph.D.

Dr. Frances E. Jensen serves as chair of the Department of Neurology in the Perelman School of Medicine at the University of Pennsylvania, where she is also a professor of neurology. She previously served as professor of neurology at Harvard Medical School and a senior neurologist at both Brigham and Women’s Hospital and Children’s Hospital in Boston. Dr. Jensen shared her extensive expertise during the creation of The Franklin Institute’s Your Brain exhibit.

Nooruddin S. Karsan is an entrepreneur whose latest project is Karlani Capital. In 1987, he founded Kenexa Corp., which was acquired by IBM in 2012. Mr. Karsan has been recognized for his entrepreneurial and humanitarian achievements by the Kauffman Foundation, Ernst & Young, Young Presidents Organization, and the Aga Khan Economic Planning Board. He co-authored the New York Times best-selling book We: How to Increase Performance and Profits through Full Engagement.

Dr. William Sigmund is senior vice president for North America Medical Affairs at GSK. He is a board-certified internist with a specialty in cardiovascular diseases. Dr. Sigmund previously served as vice president of Medical Affairs at Daiichi Sankyo, Inc., as senior vice president and chief medical officer at Bench International, and as vice president for Worldwide Medical at Pfizer.

Marvin Samson is founder and chief executive officer of Samson Medical Technologies, LLC, which specializes in injectable drug delivery systems and programs for hospital and alternate site pharmacists. Mr. Samson previously founded Marsam Pharmaceuticals, Inc., and has held positions with SICOR, Inc., Worldwide Injectables of Teva, Qualitest Pharmaceuticals, Inc., and Endo Pharmaceuticals. In 2012, Mr. Samson committed $300,000 over three years to fund the Samson STEM Learning Initiative at The Franklin Institute. This program integrates in-school and out-of-school enrichment experiences to give underserved students in grades K-8 in the School District of Philadelphia year-round science learning opportunities.

Dr. Karen Zimmer is a health IT, patient safety, and quality consultant. She was a medical director for patient safety, quality, and risk at the ECRI Institute. In addition to her role at ECRI, Dr. Zimmer is an attending physician at Thomas Jefferson University Hospital’s Pediatric Outpatient Clinic, medical staff at Nemours of Alfred I. DuPont Hospital for Children, and adjunct assistant professor at Johns Hopkins University School of Medicine.

Dr. I. Stephen Udvarhelyi is executive vice president of health services and chief strategy officer at Independence Blue Cross. He also serves as a director of the Independence Blue Cross Foundation. Dr. Udvarhelyi is a board-certified internist with 20 years of experience in the managed care industry. He previously served as senior VP and chief medical officer at Independence Blue Cross, has held positions with Prudential Health Care, and was a faculty member at Harvard Medical School.
DONOR SPOTLIGHT:
TE Connectivity

Thank You For Your Support in 2014 and Beyond!

Thank you for your commitment to providing creative and engaging science and technology learning experiences for students, families, adults, and educators throughout the greater Philadelphia region and beyond. Your generosity makes so much of what The Franklin Institute does possible, and our community is very grateful:

“What I noticed mesmerized my class the most was the video of a heart operation in the chest of the dummy (in the Giant Heart exhibit). We also discussed what a scientist does, because we met one there! Thank you for getting us the tickets—these kids would never get to your world class museum otherwise.”
— Linda M., teacher

Providing free and discounted field trips is just one of the many ways your gift has a significant impact. Your support also funds curriculum development, outreach efforts, enrichment and mentorship programs, specialized educational opportunities, museum workshops, exhibit design and maintenance, curatorial preservation, and so much more.

This year has undoubtedly been one of the most exciting in recent history at The Franklin Institute. If you’ve not already done so, please consider making a gift before the end of the year—you can help us close 2014 in a strong financial position and continue that momentum into 2015. As always, thank you for your generosity and for helping to inspire a passion for learning about science and technology.

SAVE THE DATE

February 7, 2015
Art of the Brick Premiere Family Breakfast

April 9, 2015
Science of Wine Dinner and Discussion

April 23, 2015
The Franklin Institute Awards Ceremony and Dinner

Let’s Talk About Your Brain:
Conversations about Neuroscience and Society

January 25, 2015
The Aging Brain and Alzheimer’s Disease

February 24, 2015
What’s My Child Thinking? The Brain from Childhood to Adolescence

March 24, 2015
Addiction: Medical Condition or Moral Breakdown

In 2014, TE Connectivity (TE) made a commitment to educational programming at the Institute and outreach in the community by supporting both The Franklin Institute Awards Ceremony and Dinner as an Associate Sponsor and the special exhibit 101 Inventions That Changed the World as exhibit sponsor. In addition to sponsoring 101 Inventions, TE promoted the exhibit on their social media streams, setting an example of how technology can help people discover new ways to learn about the science that surrounds them every day.

As Chief Marketing Officer and Senior Vice President Amy Shah explains, “TE is a champion of those who invent and create, so sponsoring the 101 Inventions exhibit was a natural fit. TE’s connectors, sensors and electronic components are essential in today’s interconnected world and have been directly influenced by many of the inventions featured in the exhibit. Also, our products enabled several of the featured inventions including automotive, aerospace, consumer electronics, networks, energy, medical devices, and factory innovations. We partnered with The Franklin Institute because they align with our mission to champion creators, inventors, and engineers and share our ongoing support of STEM education. Attending the Awards Ceremony and Dinner was a special highlight this year. It was wonderful to honor such a prestigious group of inventors, entrepreneurs, scientists and engineers and celebrate their incredible achievements in science.”

The Franklin Institute thanks TE for their generous support of both The Franklin Institute Awards and the 101 Inventions exhibit. Philanthropic contributions from individual, corporate, and foundation donors make learning about science and technology possible every day at the Institute. To learn about how you can get involved, call the Development office at 215.448.1130.
Body Worlds: Animal Inside Out Exhibit Opening

1. Adam Dickstein; Amy Levitan; Larry Dubinski, and Vicki Markovitz
2. Julie Appolloni March with Nicholas and Athena Karabots
3. Edvira and Dan Amoroso with Joanna Greenfield and Andrew Samson
4. Vito Izzo and Bill Sigmund
5. Jacqueline Kraeutler, Jerry Calvert, Grete Greenacre, David Reinfeld, Dan Slack, and Ann Calvert
6. Lee and Rosie Hymerling
7. Bobbi and Garry Adam
8. Gary Tocci, Larry Dubinski, and Sandra Baldino
9. Stephan Burse and Paralee Knight
10. Richard DePiano and Joyce Sanio
11. Bryna and Andy Scott
12. John and Doris Sickler with Daniele Greiner