

# DEAR FRIENDS,

In celebration of the museum's 85th anniversary, in 2015, we launched *Adler85*—a yearlong initiative to shake up the typical museum experience, move beyond the walls of our building, and bring science into the community.

This past year, we invited people of all ages and skill levels to roll up their sleeves and do science with us, and we piqued their curiosity with our award-winning ad campaign—*Space is Freaking Awesome*. The response to our efforts was incredible. We made new friends around the city (and beyond), and also welcomed more people to the Adler—a 22 percent increase in attendance!

We are delighted to share the Adler's 2015 Annual Report with you. In it, you will see a cross-section of the Adler's best year since 1993: new programs and exhibitions, sold-out events, strong partnerships with local organizations, and much more. You'll also travel down Route 66 with our first-ever science roadshow, find out how 10,000 popsicle sticks helped our visitors become astrophotographers, and learn a few more reasons why space is so freaking awesome.

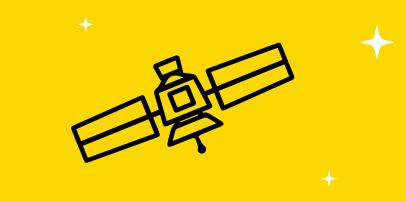
Your friendship to the museum is appreciated, and your generosity supports everything we are able to accomplish. We all #LookUp! at the same sky, and the Adler is delighted to be your partner as we explore and discover together.

Michelle

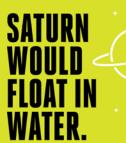
MICHELLE B. LARSON, PHD President and CEO

**SCOTT C. SWANSON** Chair, Board of Trustees

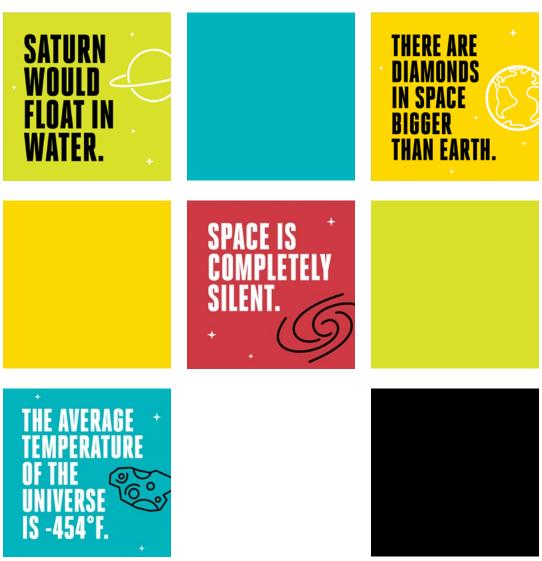




# SPACE IS FREAKING FRESOME.



THERE'S A RAINS GLASS.



Did you know the sunlight hitting your face right now was produced in as the Willis Tower!

The Adler's award-winning advertising campaign, Space is Freaking Awesome, debuted in summer 2015, but the museum has been sharing our enthusiasm for space science for more than 85 years. The campaign shines a spotlight on the Adler's ethos: We take ourselves much less seriously than we take our science, and we invite everyone to roll up their sleeves and make new discoveries with us. You don't need a degree in astrophysics to delight in the weirdness of an 800-degree ice planet or the beauty of Jupiter's Red Spot-a storm twice the size of Earth that has been raging for more than 350 years. The Universe is for everyone. And it's freaking awesome.

# the molten core of the Sun 175,000 years ago? Have you heard about the diamond planets? How about the giant volcano on Mars? It's 47 times as tall

# A RECORD YEAR

The Adler welcomed 539,499 visitors in 2015—a 22 percent increase over 2014 and our highest attendance number since 1993! While our Museum Campus neighbors also enjoyed higher attendance, the Adler's percent-increase was the highest by far. The second-largest increase was 14 percent; the third, 8 percent.



## **CURATOR PEDRO RAPOSO** SHEDS NEW LIGHT ON ADLER COLLECTION

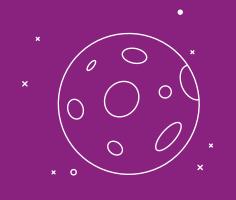
Pedro M. P. Raposo, DPhil, joined the Adler's Webster Institute for the History of Astronomy in early 2015. As curator, he is responsible for the use and research of the Adler's collections of historic scientific instruments, rare books, and works on paper. In each issue of the AdlerStar member magazine, Pedro's From the Vault column gives readers a rare look at an Adler collections item not on display to the public and tells a rich story about how it came to be.





Mind-blowing experiences and special events that aren't available anywhere else.





# WE CHOOSE TO GO TO THE MOON

On April 11, 2015, the Adler opened the James A. Lovell, Jr. Exploration Experience: Mission Moon, a new exhibition that invites visitors to experience America's first steps into space through the eyes of NASA's Captain James A. Lovell, Jr., and his family.

In *Mission Moon*, audiences discover how the United States became the first nation to put a man on the Moon, what it's really like to be an astronaut, and why it takes a team to explore uncharted worlds. Along the way, you can launch a rocket, race against the clock to solve an engineering challenge, and look inside the real Gemini 12 spacecraft, where Captain Lovell and Buzz Aldrin, PhD, spent four days together in space.

Captain Lovell's story is full of twists and turns, setbacks and successes. It's the story of a national hero, but it's also the story of a kid from Juneau, Wisconsin, who loved rockets.

The Adler Planetarium is grateful to the following donors for their support of the James A. Lovell, Jr. Exploration Experience: Mission Moon:

Sue and Wes Dixon William and Claudia Gruber Robert R. McCormick Foundation Smithsonian Institution

*Mission Moon* features artifacts given to the Adler Planetarium by Captain James A. Lovell, Jr., from his personal collection. The Adler also thanks the generous contributors from our Indiegogo campaign.







# ASTRONAUTS CELEBRATE 45TH ANNIVERSARY OF APOLLO XIII

# Space may be freaking awesome, but it can also be freaking dangerous.

To celebrate the men and women willing to risk their lives to make new discoveries—and to commemorate the 45th anniversary of the safe return of Apollo XIII's flight crew—six members of the Apollo mission and nearly 300 guests gathered at the Adler on April 13, 2015. This special event included a dedication of the newly opened *Mission Moon* and a panel discussion with Apollo members, including three astronauts and three flight directors. The panel was moderated by Jeffrey Kluger, who co-authored the book, *Lost Moon: The Perilous Journey of Apollo 13* with Captain Lovell.

## HONORED GUESTS

Michael Collins, Apollo XI R. Walter Cunningham, Apollo VII Charles M. Duke, Jr., Apollo XVI Gerald D. Griffin, Flight Director, Apollo XIII James A. Lovell, Jr., Commander, Apollo XIII Milton L. Windler, Flight Director, Apollo XIII

Presenting Sponsor



Astronaut Sponsors

Allstate Insurance Company, Anonymous, Dover, Mr. and Mrs. Bernard Hengesbaugh, Robert R. McCormick Foundation, PNC Bank, Wintrust Financial

Mission Control Sponsors

Ernst & Young LLP, Bill and Claudia Gruber, Ingredion, Inc., Mesirow Financial, Quinnox Inc.

# XIII45







# A STAR-STUDDED

# SUMMER of SCIENCE

From June through August, the museum offered six special days of hands-on, minds-on activities for the whole family. Visitors took on an astrophotography challenge, cooked up a comet, steered a huge helium balloon with DIY electronics, and enjoyed visits from Chicago musical theater troupe StarKid, the pint-sized supersleuths of TV's Moochie Kalala Detectives Club, and other special guests. .........





# THE ULTIMATE PI DAY: PI, PIE, AND THE SKY

In 2015, the numbers aligned for *The Ultimate Pi Day*, which took place on March 14, 2015 (3.14.15-the first five digits of pi!).

The Adler joined forces with WBEZ Chicago for a full day of festivities that drew nearly 2,000 visitors! Activities included a Parachuting Pies activity, a pi recitation contest, Pie in the Sky Solar Observing, a Pie Eating Contest, and a talk by Adler Astronomer Shane Larson, PhD.

Thank you to these Chicago community partners who helped make The Ultimate Pi Day a great success: Bang Bang Pie Shop, Chai and Pie, Cuties Mandarin Oranges, GEMS World Academy Chicago, Hoosier Mama Pie Company, Lifeway Foods, and Piece Pizza.

# WHAT IS PI, ANYWAY?

Pi is a very special mathematical ratio: A circle's circumference (hint: if you wrap a tape measure around your arm, you're measuring circumference) divided by its diameter (the distance

across the widest part of the circle). The digits after the decimal in 3.1415 (an approximate value of pi) go on forever and never form a pattern. Since it's impossible to know every

digit of pi, many math enthusiasts memorize as many digits as they can. The winner of our Pi Day pi recitation contest recited pi to 314 digits!

# LET'S DO SCIENCE

Can you take a glamour shot of the Moon with just a telescope and a smartphone? Can a marshmallow survive the harrowing journey to the edge of space and back? In June, the Adler asked museum visitors to investigate these and other scientific questions in our newest interactive exhibition: the *Community Design Lab* (CDL).

Activities in the *CDL* challenge visitors to design a solution to a problem—without instructions. With more than 600 ounces of marshmallows, 10,000 popsicle sticks, 12,000 yards of duct tape, 120 ounces of shaving cream, and a steady supply of bubble wrap and cardboard at the ready, visitors dove right in! The *CDL* was intended to be a temporary exhibition, but has been so successful that the Adler plans to keep it open indefinitely. Shortly after the exhibition opened, the visitor experience team noticed many people starting projects, ducking out for a sky show, then returning to the *CDL* to finish their projects as soon as the show was over. To help meet demand, the team installed special shelves where people could "park" their work during sky shows.



# Find what you need here

Once you've found your inspiration, track down the right supplies.





As a teacher, I found inspiration in the room design, the open-ended nature of the activity and the excitement shared by the volunteers. If my classroom could become half as engaging, I think students would learn so much more.



**BEN BIDDLE** Teacher/Blogger





# YOUNG SCIENTIST PROGRAM COMES TO SUMMER CAMP LINEUP

The Adler added a summer day-camp designed to spark scientific curiosity in our youngest explorers in 2015: The Young Scientist Program!

Preschool-age children learned to see the world through a scientific lens in this camp. Activities during the week-long sessions included circle time, hands-on investigations, free exploration, snack, art, and literacy connections.

The Adler Planetarium gratefully acknowledges Motorola Solutions Foundation for its generous support of 2015 Summer Camps.

# ADLER EDUCATORS SEND EXPERIMENTS TO THE EDGE OF SPACE IN FAR HORIZONS TEACHER EXPERIENCE

Far Horizons: A Tribute to Steve Fossett, which has been helping students and hobbyists design experiments and launch them into near-space on high-altitude balloons for nearly a decade, piloted a new professional development program in summer 2015. The Far Horizons Teacher Experience invited teachers from Chicago Public Schools and other regional schools to a week-long, high-altitude ballooning course where the teachers developed their own experiments and sent them to near-space. At the end of the course, the teachers were eager to bring the program curriculum to students at their schools.

The Adler is grateful to State Farm and the Polk Bros. Foundation for their support of the Far Horizons Teacher Experience. Thank you to the Peggy and Steve Fossett Foundation, Bears Care, and Bank of America for their 2015 support of Far Horizons.



## **HOW'S THE WEATHER UP THERE?**

The high-altitude balloons that carry Far Horizons experiments reach heights more than 100,000 feet above the Earth—a region of the upper atmosphere known as "near space." The low air pressure, cold temperatures, and higher radiation levels help simulate some of the conditions of outer space without the higher costs of sending materials to outer space. A popular place for scientific experiments, nearspace is also home to the world's fleet of weather balloons.





# HELLO, PLUTO

# On July 14, NASA's New Horizons spacecraft completed its nine-year journey to Pluto.

To celebrate the historic flyby—and the first high-resolution image of the planet ever seen by human eyes—the Adler welcomed an audience of early risers for a special live broadcast of "Encountering Pluto." This unique program, organized and produced by the American Museum of Natural History, began at 6:00 am (CDT) and featured real-time coverage of the flyby, moderated commentary from New Horizons mission control, and a satellite Q&A session hosted by AMNH team members including famed astrophysicist Neil deGrasse Tyson, PhD.

After the program, Adler visitors were encouraged to learn more about the Solar System's favorite dwarf planet in *Discovering Pluto*, a temporary exhibition in the museum's Clark Family Welcome Gallery. *Discovering Pluto* told the story of how humans have charted the outer limits of the Solar System—from Illinois native Clyde Tombaugh's historic discovery of Pluto in 1930 to New Horizons' thrilling Pluto flyby 85 years later.

## ROADMAP TO PLUTO

Planning a road trip here on Earth is easy because the roads and the cities don't move. But when you're planning a trip from Earth to Pluto, everything is in constant motion: Earth, Pluto, and all the planets in between. Gravity from the planets can change both the speed and the direction of a spacecraft, so the New Horizons team could not simply aim the craft at Pluto and press the launch button. Instead, they had to calculate how long it would take to get to Pluto (given the location and motion of the planets and the speed of the spacecraft) and where Pluto would be at the exact moment the craft would reach it nine years after the launch!



# WOMEN IN SPACE SCIENCE HONORS CAPTAIN SUNITA WILLIAMS

# The annual *Women in Space Science (WISS)* Award Celebration recognizes women who have made significant contributions to STEM fields.

On May 26, 2015, the Adler Women's Board was proud to recognize NASA Astronaut and U.S. Navy Captain Sunita L. Williams. Captain Williams accepted the award at a luncheon attended by 400 corporate and civic community leaders, after which she spent the afternoon sharing her experiences with over 200 young women from Chicago-area schools who were there to participate in challenging and fun STEM activities.

The event raised more than \$167,000 to support the Adler's STEM programs and has raised more than \$1 million to date. These funds support initiatives such as *Girls Technology Camp*.

The 2015 Women in Space Science Award Celebration was chaired by Tanya Silvio, and co-chaired by Lisa H. Bertagna and Anja Schulmeyer.



# OVER THE MOON

Hosted by the Adler Women's Board, the 2015 Celestial Ball: Over the Moon, raised \$1.7 million to benefit the Adler's science, technology, engineering, and math (STEM) initiatives for Chicago youth.

At the festive September 12 event, Trustees and Women's Board members presented BMO Harris Bank-represented by David Casper, President and CEO-with the 2015 Corporate Partner Award.

The Adler is grateful to the Women's Board, BMO Harris Bank, and members of the Chicago community for their commitment to the next generation of explorers through their support of the 2015 Celestial Ball.

The 2015 Celestial Ball was chaired by Meg Sauer, and co-chaired by Angie DiCarlo and Mihra Seta.









## SCIENCE PAIRS WELL WITH EVERYTHING

For the second year in a row, our "Science Sommeliers" brought a selection of science experiences to each table at the *Celestial Ball*. Guests chose to explore the chilling properties of liquid nitrogen with "Molecules on Ice," touch a 4.6 billion-yearold meteorite from the Adler's collections with "History Rocks," find out how ultraviolet radiation could damage their drinks as well as their skin with "Cocktail Sunscreen," or experiment with light sensors to learn how scientists can spot exoplanets in "Planet Hunters."





# DOING SCIENCE WITH ADLER TEENS

Whether designing and testing an experiment, using technology to address a social problem, or observing the night sky, Adler teens don't just learn about science—they do science with Adler experts as their guides.

The Adler is grateful to the Pritzker Foundation and the S&C Foundation for their generous support of Adler Teen Leaders Advancing STEM (ATLAS), a museum-wide initiative to give teens real STEM and professional skills. Young people work and learn with technology experts in *Zooniverse*, scientists in *Far Horizons*, educators and community organizers in *Scopes in the City*, and all across the museum.

## **TEEN PROFESSIONALS**

The Adler's Teen Internship Program places students in professional roles all over the museum. Astro-journalism interns practice their science communication skills and publish their work online; interns in our Citizen Science and *Far Horizons* programs contribute to real scientific research, and teen facilitators work with guests on the museum floor and in the Doane Observatory. In 2015, the Adler's intern pool included 16 high-school students and two undergraduates. Over the summer, these young people created a controller to drive a virtual rover at the South Side Mini Maker Faire, designed and filmed a series of virtual tours for incarcerated youth, and a whole lot more.





# GIRLS DO HACK

The Adler's Hack Days encourage students to "hack" their environment—to find new ways of using available technologies to solve real-world problems. Fall 2015 marked the third annual *Girls Do Hack*, generously sponsored by Teza Technologies. In November, 90 young women from Chicagoarea schools teamed up with 40 female STEM professionals to practice and gain confidence in the skills they will need to excel in STEM careers.

Thank you to Wells Fargo for their support of Hack Days in 2015.

# IN THEIR OWN WORDS

"STEM is not something that's restricted to laboratories, and it's not something that only geniuses or specialists can understand; it's a mindset made manifest through one's thought processes and approach to everyday questions."

## -GIRLS DO HACK PARTICIPANT

"I had a lot of fun as a telescopes intern. In fact, I even recommended it to a kid starting high school who was interested in an internship next summer!"

## -DOANE OBSERVATORY INTERN

"I was always good in science and math, but I had little experience with advanced technology. Interning in the *Far Horizons*' lab, I was able to learn how to solder, how to use a 3D printer, and how to write code to program Arduino microprocessors."

## -FAR HORIZONS TEEN INTERN

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# LAST MAN ON THE MOON

# When Apollo astronaut Captain Eugene Cernan stepped off the Moon in December 1972, he left his footprints and his daughter's initials in the lunar dust.

On December 13, the Adler hosted an advance screening of the documentary, *Last Man* on the Moon. At this special event, Captain Cernan, the star of the film, shared his epic but deeply personal story of fulfillment, love, and loss.

Following the special screening, Captain Cernan's friend and fellow NASA Captain James A. Lovell, Jr., took the stage to answer questions about their distinguished careers and share personal stories of human space exploration. Adler Trustee Maryann McNally moderated the discussion.



# UPDATED DOANE WELCOMES VISITORS ALL YEAR ROUND

# The Adler Planetarium is grateful to Adler Trustee Duke Petrovich and his wife, Nancy, for their family's generous commitment to the Doane Observatory renovation.

The new *Petrovich Family Observing Gallery and Lab* makes the Doane more accessible to visitors and provides a home base for the Adler's teen community. Observing programs and field trips can now be offered year-round, and Adler scientists and educators use the space to collaborate with teens on robotics, engineering, high-altitude balloon experiments, and special projects.

Fundraising continues for Phase Two of the renovation, which will transform the observatory into a public lakeside destination. An expanded terrace will significantly increase the capacity of the observatory and create a fully accessible star park and outdoor classroom for informal sky watching, expanded youth programming, and special events.

This special initiative is being led by the Adler Board of Trustees and co-chaired by Trustees Duke Petrovich and Jeff Rothstein.







## STARGAZER STATS

The Doane's 20-inch mirrored telescope captures 5,000 times as much light as the unaided human eye!

14,524 people visited the Doane in 2015.

Planets, bright stars (including our Sun!), and galaxies are just a few of the celestial objects you can see from the Doane.

More than 60 telescope volunteers contributed nearly 4,500 hours in 2015.



# ADLER AFTER DARK BY THE NUMBERS



19

Science talks and panels that covered everything from Vulcan biology to Pluto's surface Special brews made for Adler After Dark guests by Empirical Brewery

2

# ADLER AFTER DARK

# Each month, Adler After Dark (AAD) invites guests ages 21 and over to a one-of-a-kind after-hours science party.

With themes like Nightmare, Back 2 the Future, and *Adler After Dark* Side (which included special screenings of *Star Wars: The Force Awakens*), *AAD* is a guest favorite. In 2015, the event sold out an unprecedented seven consecutive months, and organizers forged partnerships with dozens of local organizations, companies, and museums including REI, Fermilab, and the Chicago History Museum.

# WHAT GUESTS ARE SAYING:

"As a parent, I often do not have the time during the day to visit one of my favorite museums without my children. Adler After Dark gave me an opportunity to spend an evening with my husband, explore subjects we love, and have an interactive experience." "It was so much fun. I went not knowing what to expect, and it was a total blast. We had a drink, danced, met some new people, got glam-rock face paint, checked out the star show and the exhibits. [It was] so much more than I thought the experience was going to be."







# 20:1

"Star Wars Bad Guy"-toguest ratio at the December Adler After Dark Side event

# 1

Time-traveling DeLoreans that appeared at an Adler After Dark event in 2015

"I love viewing the planets and using the telescopes and attending the shows and lectures. It's the best \$20 you can spend in the city."



# THERE

The Adler is a proud and active member of the Chicago community. Partnerships with local schools, libraries, and cultural institutions bring the Universe to people of all ages, especially residents of underserved neighborhoods.



# HIVE TEEN PROGRAMS

The Adler is a proud partner of Hive Chicago Fund for Connected Learning, a nonprofit that connects civic and cultural organizations to create educational opportunities for young people. In 2015, grants from Hive supported several Adler projects.

## HACK LABS: DATA IN DIFFICULT PLACES

The teen programs department at the Adler and Shedd Aquarium teamed up to offer *HackLabs: Data in Difficult Places*, a program to get Chicago teens involved in citizen science projects. In four half-day workshops, students experimented with sensors to collect environmental data, scraped social media to collect information, and used digital and analog methods of data visualization. *HackLabs* culminated in a daylong *Hack-a-thon*, which challenged the students to design solutions to real-world citizen science challenges.

## ADLER PLANETARIUM/CHICAGO PUBLIC LIBRARY PARTNERSHIP

The Adler Planetarium and the Chicago Public Library (CPL) began a joint program in early 2015 to bring telescope observing and STEM activities to Chicago students. Adler staff piloted two telescope observing events at CPL locations—and scouted all 81 to find the best spots for future events. The Adler also worked with 26 CPL teen program and library program facilitation staff to develop an astronomy education kit for library staff. In May, two kits were delivered! CPL branches can now check them out from the main branch at Harold Washington Library.

## STEM COMMUNITY AMBASSADORS

Adler teen programs staff joined forces with Iridescent (a family science education nonprofit) to pilot STEM Community Ambassadors. The project empowered local community adults (non-teachers) in underserved Chicago areas to lead STEM programming for young people in their neighborhoods. The ambassadors provided a valuable perspective while forming these workshops. The pilot was so successful that the teen programs team decided to hire our STEM Community Ambassador to continue with teen education outreach.

## YOUTH CHANGE MAKERS

In partnership with *Smart Chicago Collaborative*, 140 youth leaders from the Adler, Free Spirit Media, and Mikva Challenge came together to explore digital tools and activism strategies. These young people attended four workshops in the summer of 2014 during which they participated in a youth-led presentation on the issue of the day and then divided into five cohorts to work on digital activism solutions to the problem. The issues and their designed solutions were featured at pop-up events around the city in 2015.

## **SCIENCE LEADERSHIP CORPS**

The Adler's *Far Horizons* program and After School Matters (ASM) teamed up in the summer of 2014 to teach 15 highly motivated teens about high altitude-ballooning at the Adler and guide them as they developed and launched their own experiments into near-space. During the 2014-2015 school year, the students mentored the next class, which brought a new batch of experiments to the edge of space in spring 2015.



Adler85—a yearlong initiative—celebrated the Adler Planetarium's 85th anniversary with innovative programming to expand the Adler's audience in Chicago, with a special focus on historically underserved neighborhoods.



# 'SCOPES IN THE CITY

'Scopes in the City brings free telescope observing and Adler experts to community gathering spaces throughout Chicago, especially where residents face financial or practical obstacles to visiting Museum Campus. In 2015, program leaders worked with representatives of city parks, libraries, and schools to develop long-term partnerships and attract new audiences that would not typically have access to telescopes. Nearly 2,200 people attended 'Scopes events in 2015!

The Adler gratefully acknowledges Magellan Corporation for its generous support.

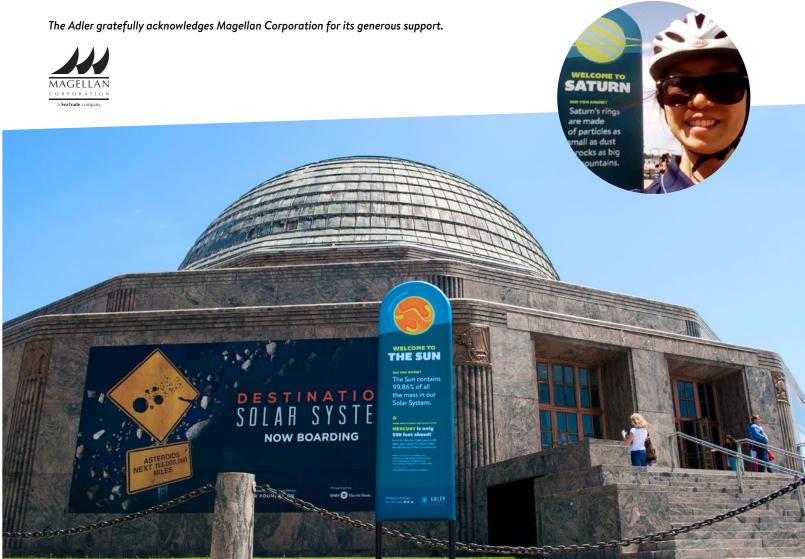


# PLANETS ON THE PATH

In collaboration with the Chicago Park District, the Adler installed a scale-model walk spanning Chicago's lakefront trail-enjoyed by nearly 30,000 people per day-to teach visitors about the Solar System. Planets on the Path cast the public in the role of space explorer and challenged them to grasp the immensity of space as they traveled from planet to planet on foot, bicycle, or even Seqway! Each orbit was marked with a large placard that shared mind-blowing facts about the planets in our cosmic backyard. A person walking two miles per hour would reach each planet installation in about the same amount of time it would take a beam of light to travel between the real planets.

To encourage the public to check out the installation, we launched a #PlanetsonthePath selfie challenge on social media asking people to share a photo from 11 unique locations along the lakefront to receive a one year Adler membership.





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# STAR POWER

The Adler's annual *Perseid Meteor Shower Star Party* invited guests to step away from the city lights and enjoy the Perseid meteor shower with museum scientists and educators.

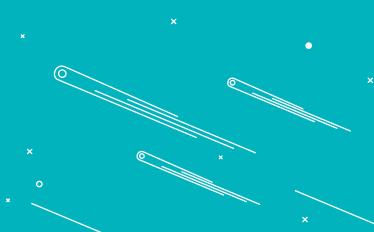
Held at Cantigny Park in Wheaton, Illinois, the 2015 event was a huge success. A new partnership with Cantigny and the Robert R. McCormick Foundation helped the Adler sell 1,200 tickets to the event—a 100 percent increase over 2014! Guests enjoyed stargazing with astronomers, science activities, live music by Chicago bluegrass band The Bonesteelers, a scavenger hunt for kids, and much more. They took selfies from space (with high-altitude balloons), learned about dwarf planets with Adler astrophysicist Shane Larson, PhD, and launched stomp rockets until 11:00 pm.











## WHEN YOU WISH UPON A STAR • (YOU ARE ACTUALLY WISHING UPON A METEOR)

The objects we call "shooting stars" are not stars at all-they are meteors blasting through the Earth's atmosphere! The trail of light we see comes from the friction between the meteor and particles in the atmosphere.

# IN THE SHADOW OF THE EARTH

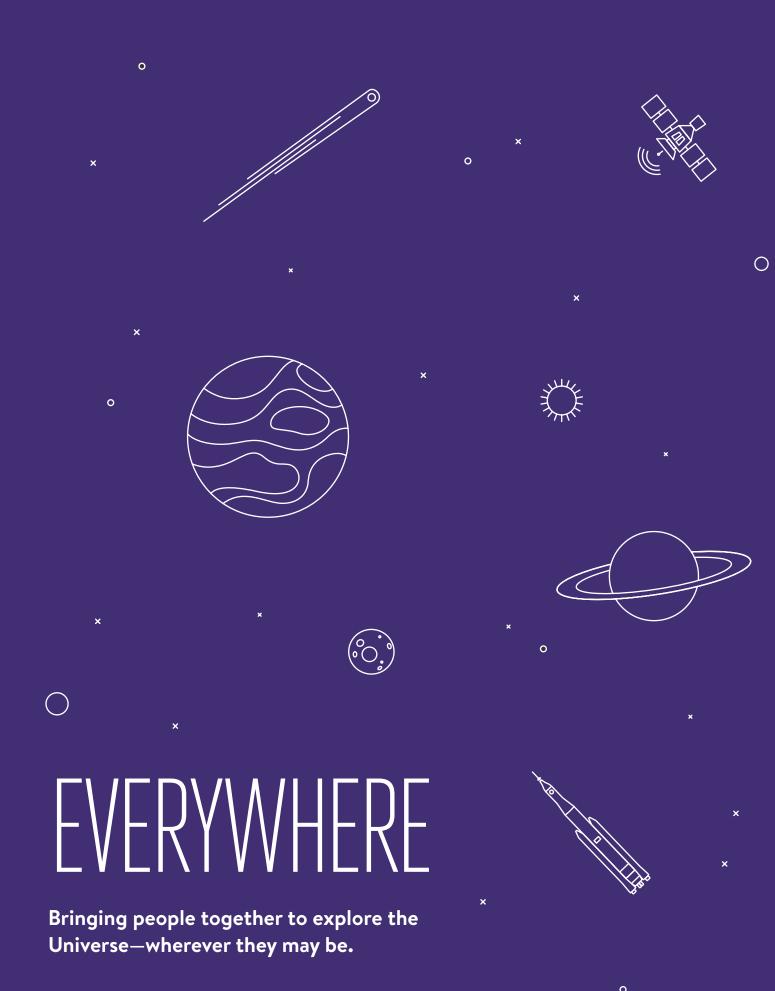
At 8:07 pm (CDT) on September 27, 2015, the Moon slipped completely into the Earth's shadow. Since Chicago won't see another total lunar eclipse until 2018, the Adler marked the occasion with a Total Lunar Eclipse Viewing Party!

Approximately 2,000 guests made a special Sunday-night trip to the Adler to enjoy telescope viewing from the plaza, special lectures by Adler astronomers and educators, access to the *Space Visualization Laboratory*, tours of the Doane Observatory, and much more. Adler members enjoyed exclusive access to a members-only lounge in the museum's café.

## **COSMIC CHAMELEON**

While more common than solar eclipses, lunar eclipses last longer and can be viewed almost anywhere on the night side of the Earth (if the sky is clear). And no two are ever the same—they can range in color from brick red to copper to dark gray.





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# **SEEING IS UNDERSTANDING**

# Kavli Fulldome Lectures trade charts and graphs for stunning views of the Universe.

Scientists who share their research with the public have a tough job. It's not easy to make highly complex information understandable to people with no prior knowledge of the subject. In the Kavli Fulldome Lecture Series, Adler visualization experts help leading scientists communicate with the public, both at the museum and nationwide, by following an old rule of storytelling: Show; don't tell.

The Adler was delighted to host Dr. Michael E. Brown-a Kavli Prize Laureate in Astrophysics-as the first Kavli Fulldome Lecturer on March 5, 2015, for a talk that gave audiences a breathtaking view of frontier astronomy research. The Adler's Space Visualization Group (SVG), led by Adler astronomer Mark SubbaRao, PhD, transformed data from Dr. Brown's scientific papers into animated images and projected them onto the dome in the Adler's Grainger Sky Theater.

In addition to the 182 Adler visitors who attended the lecture, visitors to planetaria in Peoria, Illinois; Denver, Colorado; and Tucson, Arizona enjoyed Dr. Brown's talk and the SVG's data visualizations via a live "domecast."

The Kavli Fulldome Lecture Series is funded by a generous grant from The Kavli Foundation.

THE 🗱 KAVLI FOUNDATION





THE 🎉 KAVLI PRIZE

TALES FROM THE OUTER SOLAR SYSTEM

PRESENTED BY MICHAEL E. BROWN





# PEDALING TO ANDROMEDA

# In September 2015, the Adler introduced *Galaxy Ride*, a science roadshow designed to get families and other curious people excited about STEM.

This 300-mile bike trip began at the Adler Planetarium, made several stops along the historical Route 66 bike trail, and concluded at the St. Louis Science Center. The eight-day journey, which began on September 18, was led by Adler astronomer and TED Senior Fellow Lucianne Walkowicz, PhD.

At each of the seven stops along the route, the *Galaxy Ride* brought the Universe a little closer to the public with free, spacethemed, interactive science activities facilitated by Adler educators in partnership with local schools, libraries, and astronomy clubs. The themes of each stop were based on celestial objects and their distance from Earth as mapped on a logarithmic scale. Chicago represented Earth, while St. Louis represented our nearest neighboring galaxy—Andromeda. In total, nearly 1,000 people across the state enjoyed science activities with the *Galaxy Riders*!













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## **SEVEN GIANT LEAPS**

To help our *Galaxy Riders* cover more ground (uh, space), we used a logarithmic scale to plot celestial objects on the road from Chicago to St. Louis. In a log scale, each step is ten times as long as the previous step.

Log scales are all around you! The decibel scale, which measures the loudness of sound, and the Richter scale, which rates the strength of earthquakes, are both log scales. By using a log scale for distance, we can easily travel the nearly 2.5 million light-years to Andromeda in just seven leaps forward.



# PEOPLE-POWERED RESEARCH

In 2007, the Adler and the University of Oxford, England, created *Zooniverse*—the world's largest and most successful online portal for citizen science projects. Through zooniverse.org, a world-wide community of more than 1.5 million "citizen scientists" help researchers classify galaxies, find new planets, explore the surface of the Moon, and complete dozens of original projects in astronomy, biology, Earth science, and the humanities.

The year's biggest news for *Zooniverse* and citizen scientists around the world was the July launch of Project Builder, a free tool that allows anyone to build a citizen science project. By the end of December, more than 1,750 projects had been built, 100 of which were active.

In 2015, *Zooniverse* launched new projects to hunt for pulsars, identify animals in videos of African wildlife, and transcribe logbooks from the captains of whaling ships! Pulsar Hunters, which was featured on the BBC's *Stargazing Live* event, has already discovered a new exotic pulsar. Two of the citizen scientists on the discovery team were a brother and sister, ages 8 and 10.

The Adler Planetarium is grateful to the Alfred P. Sloan Foundation and Google for its support of Zooniverse initiatives.





**LET THERE BE LIGHT!** 

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# MAKING HISTORY NEW

In 2013, the Adler launched the Collections Access Initiative (CAI)—a five-year multi-phased effort to create an expansive online presence for the Adler collections. As part of the CAI, the Adler unveiled a new online catalogue in October 2014, making items from the museum's collection available to anyone with internet access, anywhere in the world. In 2015, the Adler's History of Astronomy Department accepted more than 600 unique audio and video tapes into the museum's archives.

The tapes contain a wide variety of content, including former planetarium sky shows, panel discussions, astronomy lectures, and interviews from throughout the Adler's institutional history, and in turn, the history of planetaria as a whole. The Adler Planetarium Audio/Video Digitization Project was launched in August 2015 as an extension of the CAI in order to assess, digitize, and catalogue this unique audio-visual material and make it available to the public.

The Adler's CAI digitization project is generously supported by the Michael W. Louis Charitable Trust.

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Carter Boe Chris Cadayona Sushant Dhawle Mireya Felix Adriana Flores George Francis Daniel Giles Martin Gilson Tamara Herst Andrew Kruger Kristen Larson Sarah Levine Kayla Lewis Carmen Maso Phyllis Montgomery Isaiah Moore Ronnie Ovando-Gomez **Ryan Pierce Bob Popovich** Mike Regacho Natalie Rodriguez Darlene Sanchez Lyndon Sapozhnik Linda Saucedo Jake Schaafsma Jennifer Sieben Roxanne Vitorillo Brian Waskevich Maurice Wilson

## **1-49 HOURS**

LaVerne Arp\* Greg Barnes Josh Bartrom Megan Bedell Amy Bender Erin Biebuyck Chuck Blajszczak Matthew Bockwoldt Gerardo Bolanos Angela Brown Kai Cai Erick Carranza

Yesi Carrera Faustin Carter Ross Cawthon Jay Chaudhary Bethany Chidester Bill Chiu\* Oleg Ciubarca Sam Clark Kim Coble Steve Cosgrove Jav Crump Radhika Dani Andy de Fonseca Cosmin Deaconu Emaih Donaldson Dan Dumitrescu Nathalea Espinosa Dan Fabrycky Laura Fissel Bronte Folev Andy Frank Renee French **Robert Friedman** Cathy Gacek\* Chelsey Gaisford Ashley Gilliam Pam Gilmour\* Grant Gingerich Chris Goebbert Sarah Goeppinger Aaron Gomez Johnathan Gonzalez Sarah Gray Paul Grogan Ryan Grosso Thaddeus Gue Torrence Gue Joe Guzman<sup>\*</sup> Zach Hafen Ayesha Hamid Jason Henning Diep Hoang Heidi Holladay Stephen Hoover Zhen Hou Jane Huh

# ADLER PLANETARIUM VOLUNTEERS

Volunteers at the Adler Planetarium provide thousands of hours of support for learning programs, special events, and museum research activities. From showing visitors the wonders of the sky through a telescope to mentoring students through our teen and youth initiatives, volunteers play a vital role. We acknowledge with gratitude our 2015 volunteers for their cumulative service hours.

## 100-499 HOURS

Vanessa Adana Elliot Alexander Norman Berg Megan Albaugh Bonham Frank Carter Jim Clinton Milan Dickens Tim Doar Kim Dupczak

Linda Fish Paul Francuch Kevin Franke Thomas Geoghegan Margot Getman Dario Giacomoni Gregory Glover Annelise Goldman Jeremy Harrison Carrie Lvnn Hennessy-Wild David Hurst

Fred Johnson Ken King Tom Kirke Haris Latic Mark Montgomery David Nanberg Gigi Nunez Armando Pineda Alan Raiff Andv Salata Ethan Salier-Hellendag Jeff Sayler **Bill Schneider** Dave Steppat John Surgot Krista Thompson Linda Thompson Derek Wagner Kathy Williams Alan Zablocki Karisa Zdankv

\*Five or more years of service

Ø

Carl Rodriguez

Ron Rotunno\*

Brett Rudder

Jonathan Rosner

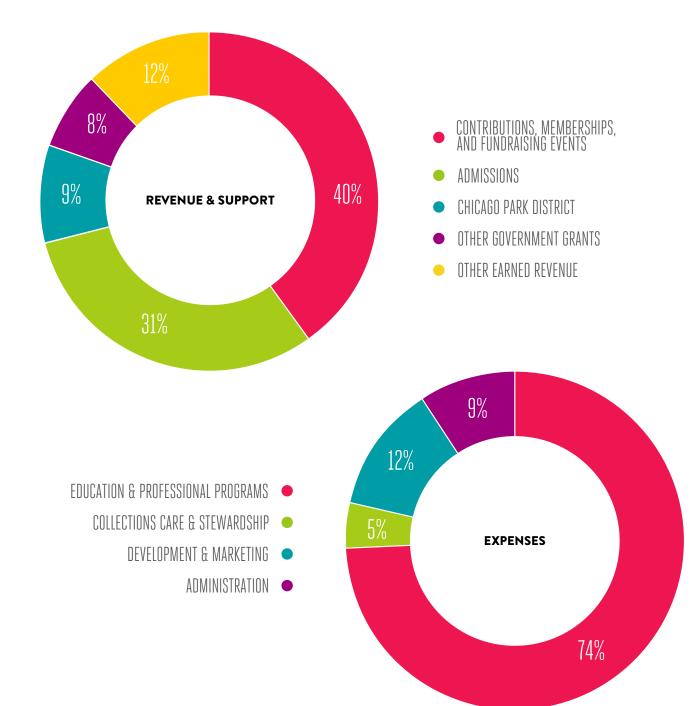
Thomas Janopoulos Mike Javor Elise Jennings Arelia Jones Erin Kasdin Mike Katz Lauren Kelly **Richard Kessler** Imran Khan Aaditya Khimani Rae Kimball Louis Klieger Elizabeth Koprucki Dorothy Kramer Justin Krivda Barbara Lazo Josh Lazo\* Nan Li Cameron Liang Michael Linkowich Yoram Lithwick Huiting Liu Sidney Madden Phil Mansfield Laura McDonald Don McGregor Saul Mejia Esteban Mendoza Sean Mills Lee Minnerly Jocelyn Mondragon Sandy Morganstein Alex Mourousias John Napoletano Heidi Neale Chelsea Nelson Kit Ng Lacey Nixon Paul Nwawolo Maya Paloma Nahee Park\* Nidhi Pashine Mihir Patel Blair Purcell

Taylor Roberts

Charles Roche

Jason Sais Melissa Sanders Cindy Scarlett\* Stephen Schade Becky Selzer Chen Shen Holly Situ Joseph Smoley Tony Smurlo Alvin So Steven Solomon Tim Sorensen Olivia Sotirchos Andy Spencer Ted Stepina Anthony Stull Jacky Sum Shari Summers-Lavelli Lillie Therieau Laura Thompson **Ritesh** Tipnis Mayra Tlatelpa Amanda Tran Daan Van Rossum Ali Vanderveld\* Yessica Velazquez Jude Vhrin\* Abby Vieregg Joel Vinas Steven Wang Ellen Wehofer Tom Weisgarber Sue Wells\* **Michael Williams** Wayne Wong Wesley Wong Mia Wouldfolk Alex Wright Liz Wylie Michael Zevin Kat Ziegler

# FINANCIAL SNAPSHOT



## ADLER PLANETARIUM

*a stellar year* FOR THE ADLER!

# record attendance

Welcomed 539,499 visitors. The most since '93.

Attendance was **up 22%** vs. 2014 which was 14 percentage points higher than our Chicago museum counterparts.



# celebrated 49 "I DO'S"

# **OPENED 3 NEW EXHIBITS.** (Mission Moon, Community Design Lab & Planets on the Path)



**PROJECTS BUILT** 



# 14<u>,524 PEOPLE</u> looked thru the

**DOANE TELESCOPE** 





3.5 TO 4

**OUR MISSION:** To inspire exploration and understanding of our Universe.

# **YOUNG PEOPLE** were reached through our

Adler Teen programming

A ONE DIRECTION BAND MATE

A SMASHING PUMPKIN





FAR HORIZONS' **BALLOONS** 

Heur

like Pi Day, Summer of Science, Last Man on the Moon, Celestial Ball, Lunar Eclipse Viewing Party, Members' Night, Hack Days and more!

8,500 MARSHMALLOWS, **105** ROLLS OF DUCT TAPE AND **650** CARDBOARD BOXES WERE USED IN THE COMMUNITY DESIGN LAB

"As a teacher, I found inspiration in the room design, the open-ended nature of the activity and the excitement shared by the volunteers. If my classroom could become half as engaging, I think students would learn so much more." ben biddle, teacher/blogger

# OF ASTRONAUTS **WE HOSTED** 

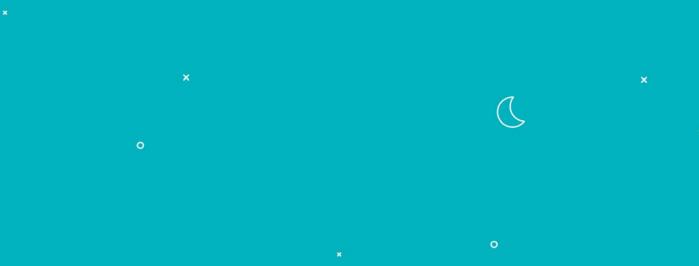




The Adler Planetarium gratefully acknowledges the generous support it receives from the Chicago Park District on behalf of Chicago citizens.



Official and Exclusive Airline of the Adler Planetarium







# ADLER PLANETARIUM adlerplanetarium.org

1300 South Lake Shore Drive Chicago, Illinois 60605

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