

2020 Year-End Report from
The Michigan Science Center

A Time of Challenges, New Connections, and Growth



**MICHIGAN
SCIENCE
CENTER**

Prepared on
February 9, 2021

Table of Contents

Michigan Science Center Report: A Year of Growth & Connection.....	3
Bringing People Together In-Person	4
BASF Girl Scout Kaleidoscope of Science Event.....	4
Community Free Days.....	5
Sponsors of Science Field Trip Program.....	5
Traveling Science Program.....	6
MiSci's Planetarium Bites the Proverbial Cosmic Dust.....	6
Connecting with our Community Online	6
ECHO LIVE! Program	6
The STEMinista Project	8
Virtual Field Trips	9
Reopening MiSci Post COVID-19.....	10
Aramco Summer of Science	10
New Exhibits at MiSci.....	11
Reopening MiSci's Theaters with New Films	12
Putting You at the Center of Science	13
Organizational Health	13
Conclusion.....	14

Michigan Science Center Report: A Year of Growth & Connection

The Michigan Science Center (MiSci) started 2020 with its first budget surplus since 2016 and the confidence to make it our best year yet. Little did we know that a pandemic would hit the country, forcing MiSci to close its facility from March 13 to July 10, 2020. At the same time, families grieved the loss of 400,000 lives, experienced economic shock like never before, spent the majority of 10 months inside, and protested for racial justice and equity. **With these challenges, MiSci worked to learn and invest in better ways of serving our community.**

Children in Metro Detroit were some of the hardest hit by learning obstacles caused by the coronavirus. In the tri-county area, fewer than 40% of students are proficient in math and science. The consequences for students in Detroit are even more severe, with only 8% of middle schoolers showing proficiency. Per Detroit Public Schools Community District Superintendent, Dr. Nikolai Vitti: ***“COVID-19 forced an inconsistent learning environment that is hard on kids. We have seen a 10% to 25% increase in students failing at least one class.”***

We are so grateful for funders like you who helped MiSci continue to deliver critical STEM resources to students, parents, and schools when they needed us most. The following report describes MiSci’s unwavering dedication to better support our community and the incredible feats we achieved despite the unprecedented events of 2020.

- Served 307,779 people in 2020 – surpassing our annual impact goal by 23%.
- Transitioned many programs to the online world and created our signature virtual program, *ECHO LIVE!*
- Reopened MiSci safely on July 10, 2020 to serve guests in-person without a single known COVID-19 transmission last year.
- Made MiSci more accessible than ever by serving more than 80% of our audience at no cost to them.
- Launched three new exhibits and two films in our Toyota 4D Theater and reopened IMAX Theater.



	2020 Impact
Total Impact	307,779
In-Museum Visitors (Includes 17,923 who visited during free events, and 9,686 students on field trips)	42,232
Education Programs (onsite, offsite, and online)	36,272
ECHO LIVE! (our signature virtual program)	229,275

Bringing People Together In-Person

MiSci started out the year 2020 on a high note – we just exceeded our attendance, revenue, and fundraising goals for 2019. MiSci had two new leaders in place after two years without a permanent Chief Development Officer and CEO. Our education team was ready to debut new projects that we had been working on over the past year. Without knowing that our museum was going to close in March for the first time in our eight-year history, **MiSci started out 2020 celebrating with our community in a BIG way.** In the following section, we describe how we came together with our guests before social distancing and masks became the new norm.

BASF Girl Scout Kaleidoscope of Science Event

Patches and vests filled the Science Center during our Kaleidoscope of Science event with the Girl Scouts of Southeast Michigan. In February 2020, MiSci hosted a BASF Corporation sponsored event that welcomed 662 visitors: 353 Girl Scouts and 309 adults.

Girls participated in 14 special science activities and shows in our Chrysler Science Stage and DTE Sparks Theater. The Girl Scouts' favorite activity was the Happy Hands activity, where participants learned how to mix their own hand lotion using basic chemistry. **Each scout walked away with a one-of-a-kind BASF badge for participating.** More importantly, we achieved glowing results with those we served:

- 99% of Girl Scouts enjoyed the event and would recommend it to their friends.
- 85% of Girl Scouts felt the event made them more excited to learn about science.
- 90% of Girl Scouts felt that the BASF event inspired them to seek out more information about STEM.



Community Free Days

MiSci strives to make our STEM programs accessible to everyone. Nearly half of our audience last year came from low-income homes. One way MiSci ensures accessibility is through **Community Free Days** – sponsored events in which we waive general admission fees. Nearly 8,000 visitors benefited from these days last year.

MiSci's most popular Community Free Day was on January 11, 2020. Axalta Coatings System helped MiSci host a "[Conserve This Colorful Planet](#)," Free Day that welcomed 2,910 guests. We presented pop-up exhibits in partnership with Ducks Unlimited and Six Rivers Land Conservancy that taught guests about water conservation and climate change in colorful and engaging ways.



Sponsors of Science Field Trip Program

Our Sponsors of Science Program (SOS) offers free field trips to students from our regions' most under-resourced schools. **Just one day before closing, 9th graders from Detroit's Western International High School visited MiSci through a special SOS field trip sponsored by Aramco Americas called iExplore Energy.**

The primary focus of the students' field trips was a live presentation in the DTE Sparks Theater featuring electricity and magnetism demonstrations. While watching the show, presenters engaged with the students through quizzes using an educational learning app called Nearpod that students enjoyed on their phone. Over 1,300 children participated in the special iExplore trips and 3,706 children benefitted from the SOS program overall. More than 90% of teachers who brought their students to MiSci said these field trips:



- Led to improvements in the classroom.
- Made STEM more relevant in students' lives.

Traveling Science Program

MiSci launched the Traveling Science Program (TSP) in 2016 to bring hands-on STEM experiences to schools, community centers, and libraries in Detroit and throughout Michigan.

MiSci grounded this program for four months but reopened it again in July 2020. **Despite these issues, TSP reached 7,964 children by visiting 10 counties and 19 cities throughout Michigan in 2020.** This included an annual trip to the Upper Peninsula that visited communities over 400 miles from Detroit.



MiSci's Planetarium Bites the Proverbial Cosmic Dust

MiSci began the year in the Planetarium like any other – mesmerizing families with constellations they often can't see due to the light pollution in Detroit. **We served 5,320 people in the Planetarium before closing our museum in March.**

When MiSci prepared to shut down, we realized the planetarium projector shone its last star. In a way, the death of our Planetarium system was a metaphor for what would happen at MiSci over the following months of 2020. Though we no longer had access to this beloved theater, MiSci was still able to show children and families what this galaxy has to offer through virtual planetarium shows.



Connecting with our Community Online

When MiSci's facility closed in March, we knew that it would be essential to transition our services online so that we could continue to connect with our community. Less than four days after our public closure in March, MiSci launched a host of new free online science programs and built relationships with children and families in the virtual world.

ECHO LIVE! Program

MiSci's ECHO Distance Learning Program has been providing live and interactive virtual instruction since 2017. In order to serve students during this pandemic, MiSci used this online platform to deliver *ECHO LIVE!* – an interactive science show broadcast every week on Facebook Live and YouTube since March 17.

In 2020, MiSci reached **229,275 children through 111 episodes of *ECHO LIVE!*** We explored different science topics in every episode. Our planetarium episodes feature our NASA Solar System Ambassador, Paulette Epstein. During [Episode 71](#), Paulette zoomed past our solar system to show viewers how small we are compared to the 200 billion galaxies in outer space.

MiSci also developed shows related to COVID-19, such as the science behind hand sanitizer. During the episode, MiSci [taught audiences how to make hand sanitizer at home using simple ingredients](#), at a time when sanitizer was hard to find in stores. We also featured an [episode](#) on Blood Types that showed children how vaccines stimulate antibodies that can help us develop immunities to harmful viruses like COVID-19.

ECHO LIVE! was recognized on [NBC Nightly News](#) with Lester Holt (Kids Edition) and received a Pinnacle Award as one of the best virtual education programs in 2020. Mr. Holt said: *“With museums forced to close since the pandemic hit, some places (MiSci) are getting pretty creative while still making it fun for kids at home.”*



This show has been widely praised by parents and students alike. Students affectionately nicknamed the host of *ECHO LIVE!*, Anna Sterner, **“THE QUEEN OF SCIENCE!”** Nearly every parent (99%) we surveyed reported that *ECHO LIVE!* supported their child’s learning while home from school last year. The show also helped students feel confident with online learning once back in the classroom remotely in the fall.

*“We have watched every single **ECHO LIVE!** episode. Evan was unsure if he wanted to go back to school in the fall and felt confident that he could successfully continue his education online after engaging in **ECHO LIVE!**”*

- Parent of *ECHO LIVE!* participant

The STEMinista Project

The STEMinista Project began the year with a role model panel that featured Cayla Thomas, an 11-year-old from Detroit (pictured on right). During the panel, Cayla talked about the \$500 scholarship she received from STEMinista to develop a nail polish formula that wouldn't trigger her asthma. Cayla now has a business plan to develop her nail polish line and aspirations to one day become a chemical engineer.

When COVID-19 hit the U.S., the STEMinista Project harnessed connection to the community through social media to host online programs. One of the first virtual events was a **"You Matter in STEM,"** workshop held amid the rise of the Black Lives Matter movement this past summer. **This was an essential topic to discuss with our community, as 90% of the girls who participate in this program are African American girls in Detroit.** During this interactive workshop, girls talked with five female role models in Detroit to share their journeys as STEM professionals. Role models discussed obstacles they faced as minority women in STEM and how they overcame them. Role models help STEMinistas better relate to and envision themselves in a future STEM career. In response to an online STEMinista workshop, a participant said:

"Thank you for being such a great role model to women. We'll all aim high and stay weird with you."

Overall, the STEMinista Project achieved amazing results with the girls we served:

- 87% reported increased interest and confidence in STEM.
- 85% reported STEM careers introduced as being "appropriate" for girls/women.
- 85% reported "being able to see themselves" in a STEM career.



You MATTER in STEM
Tuesday, July 7th, 2020
6 pm - 8 pm

FREE Virtual Event for girls, STEM role models, and parents!

Activities and panel discussions focused on building community, self-care, and much more!



Our Panelists



Britney Epps
StockX



Alyssa Space
ForHerCosmetics



Brittany Rhodes
BlackGirlMathgic



Ja'Del Davis
General Motors



Chianti Lomax
Happy Pop-Up

"It was great to see young woman of color who are actually making their own seats at the table."

- STEMinista participant

The STEMinista project reached 430 girls in real time at online events with our staff, and another 5,096 girls who watched these programs after the fact.



Virtual Field Trips

The largest deviation from MiSci's normal operations in 2020 was the absence of school groups visiting the Center on field trips. The pandemic caused almost every school in Metro Detroit to prohibit in-person field trips in 2020 to decrease the chance of spreading COVID-19. To help schools during this time, MiSci created eight different virtual field trips for K-9th graders with support from General Motors, FCA Foundation, and the Zatkoff Family Legacy Fund.

MiSci developed content for virtual field trips that tied to each grade's science curriculum. MiSci performed a pilot phase of the project with 224 students in the Detroit Public Schools Community District (DPSCD). 1st graders took a virtual flight into space to learn about our solar system. Kindergarteners learned how to identify clouds in the sky. Feedback so far has been positive.

We will launch the full selection of virtual field trips for free to all DPSCD students in March 2021. **We expect to reach 10,000 DPSCD students through virtual field trips in 2021.**

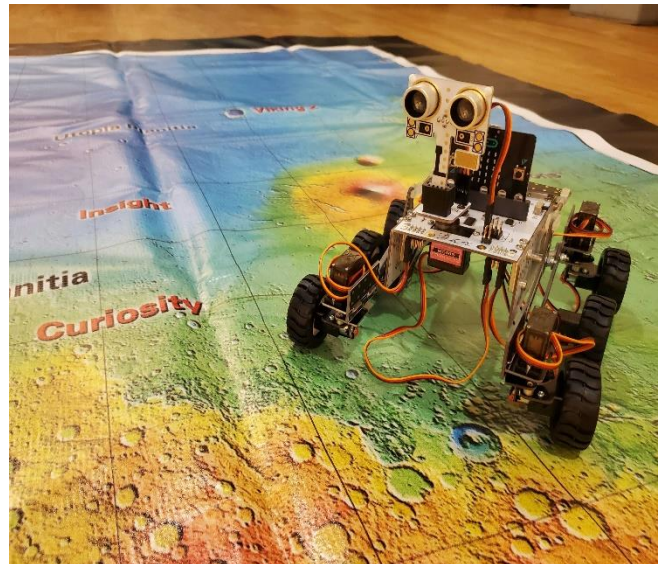
MiSci piloted another virtual program with 7th and 8th graders from DPSCD in partnership with the Detroit Area Pre-College Engineering Program (DAPCEP) and the Rocket Community Fund. Through three pilot workshops, **50 students gained foundational coding experiences, while learning how to program a remote rover located onsite at MiSci.** After learning basic drag-and-drop coding, students participated in a M.A.R.S. Rover Coding Challenge where students programmed a mini-rover to travel across a 13-foot topographical Mars map.

Each team of students used the Zoom chat box as if it were a microphone at a sporting event to cheer on their robots as they made their way across the map. Written in the chat were words of encouragement: **"Go, rover, go!"**

We are overjoyed to report that on the final workshop, a group of students finished the Coding Challenge with a perfect score as their rover crossed the finish line on the map.

"Students were excited to use the lesson, and they knew they were piloting the program. To them it was an opportunity to do something new that others hadn't done before. The videos were short enough to keep the students attention, the activities that went along with the lessons were at a great level for the students, and the virtual field trip info went 100% with the Next Generation Science Standards and Michigan Science Standards."

- Jennifer Edwards, Ronald Brown Academy



Reopening MiSci Post COVID-19

After 119 days of being closed to the public, MiSci reopened its facility on July 10, 2020. We were the first local science museum to reopen following COVID-19. This is due to the work MiSci did in partnership with the National Sanitation Foundation to develop a safe reopening plan with support from the DTE Energy Foundation, Toyota, Lear, and MiSci Board member, Eileen Weiser. New safety measures include:

- Occupancy limits, use of masks, and health monitoring of staff and guests.
- One-way traffic throughout MiSci.
- Increased airflow through an upgraded HVAC system.



Aramco Summer of Science

For many families around the world, summertime amid a global pandemic will be marked by canceled vacations, camps, and ball games. At MiSci, the summer of 2020 will be remembered as the “Summer of Science,” in which we safely reopened our facility to show families the future we can achieve through STEM.

With sponsorship from Aramco Americas, MiSci introduced the wonders of science to 10,040 children and their families at no cost to them during the Summer of Science. Waiving admission costs allowed families to learn and engage with scientific phenomena at MiSci without having to worry about the financial burden of paying for a ticket in a time of great economic uncertainty.

This also gave MiSci a chance to build confidence in our community that our facility was a safe place to visit. One of the most shared stories about the Summer of Science was a [Metro Parent](#) article that rated MiSci as one of Metro Detroit's Safest Places to Visit.



New Exhibits at MiSci

Though MiSci experienced a great deal of unexpected changes in 2020, we also installed more new exhibits this year than in any year since our opening in 2012.

MiSci's new **Ford Autonomous Vehicle Exhibit** allowed families to explore how driverless cars use LiDAR to detect their surroundings, such as other vehicles, people, and traffic conditions. The new exhibit brought hope that STEM will lead us to a safer future.



MiSci's new **Ames Room** (on right) teaches visitors about optical illusions through a fun-house sized room that uses science to distort viewers' perspectives and make people appear very small or large.



MiSci's biggest new addition is a 2,500 square-foot exhibit gallery entitled, **Earth. Wind. Weather.** With a principal grant from General Motors and additional support from Harman International and the Zatkoff Family Legacy Fund, MiSci installed 11 new exhibits on our first-floor in December, 2020.

These new exhibits allow guests to get up close with a tornado (shown on left), witness the creation of fog, and answer classic questions like "Why is the sky blue?"

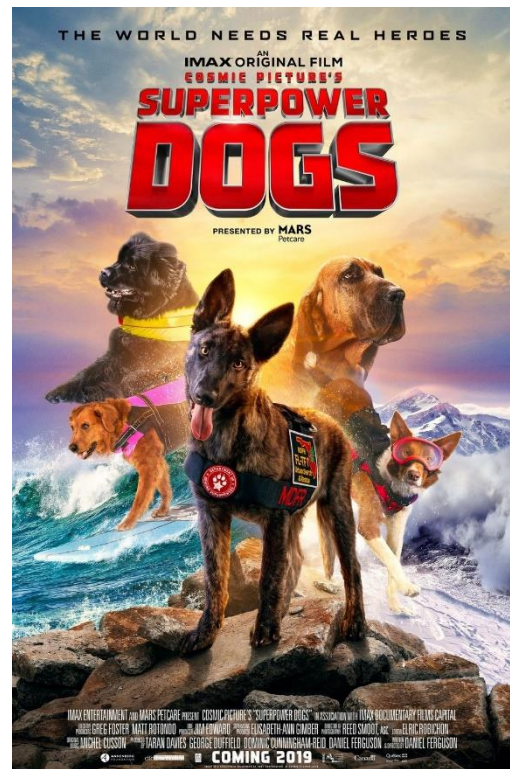
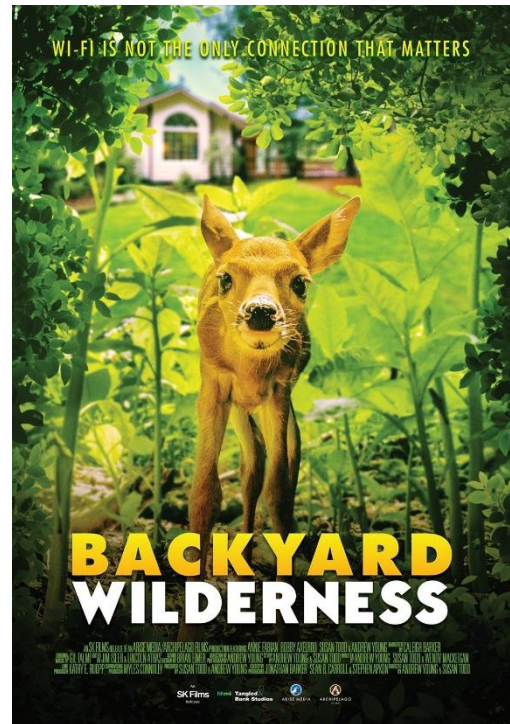
This exhibit suite will officially debut to the public in April 2021. We are excited to celebrate these new exhibits with you.

Reopening MiSci's Theaters with New Films

MiSci's theaters remained closed for most of 2020 due to state reopening guidelines. Once we were given the green light, MiSci was finally able to reopen these spaces with two new films about the important role animals and nature play in our lives.

MiSci debuted the film ***Backyard Wilderness*** in our Toyota Engineering 4D Theater in fall 2020. Spanning a seasonal year around a suburban home, the movie displays a stunning array of wildlife. **From nests, dens, and what lies at the bottom of the pond – *Backyard Wilderness* captures rare and intimate footage of animals that exist all around us but largely go unnoticed.** This movie inspires the young explorer in all of us to discover the beauty of nature all around us.

MiSci also officially reopened its IMAX Dome Theater in November, 2020. Our IMAX is the largest screen in our state at three-stories tall but has been largely dormant since 2018. With sponsorship from Strategic Staffing Solutions (S3), MiSci reopened its IMAX theater with the new film *Superpower Dogs*, which showcases the extraordinary abilities of the world's most amazing service dogs. **S3 and MiSci hosted an opening event that included free admission and complementary showings of *Superpower Dogs* to 763 people.** The occasion was made even more special with a pet adoption event hosted by Michigan Humane. **We are happy to report that all 24 dogs found their forever home with guests that visited that day.**



Putting You at the Center of Science

In addition to all the transformations MiSci made this year, we also revised our vision statement. MiSci reflected on how to connect with our audience in a more inclusive and equitable way. This inspired our new vision: **MiSci puts YOU at the Center of Science.**

Essentially this means that MiSci will meet people wherever they are in their STEM journey. Little do we see women or people of color hold STEM jobs in mainstream media. As such, MiSci understands that children in Metro Detroit may not consider themselves to be a part of the greater STEM community. We all use science, math, and especially technology, on an everyday basis. **MiSci's new vision aims to bring people to the center of science, even if they have never seen themselves there before.**

In order to ensure that we can bring more children to the center of science, MiSci aims to make our programs accessible. Almost 40% of our audience come from low-income homes. **Nearly all of our programs and events were offered at no cost last year: ECHO LIVE!, virtual field trips, the STEMinista Project, and the Summer of Science.**

We also incorporate intentional supports in all our programs to ensure we reach audiences that are historically underrepresented in STEM (people of color and women). The STEMinista Project is a good example of this. Many role models who teach STEMinista workshops are women of color from Detroit. It is our hope that this work will help our community see themselves reflected in our programs.



Audience by Race/Ethnicity	
0%	American Indian or Alaska Native
1%	Asian
48%	Black or African American
5%	Hispanic or Latino
0%	Native Hawaiian or Other Pacific
44%	White
2%	More than one race

Organizational Health

The negative effects of COVID-19 on MiSci, like for all non-profits, have been severe. As a result of closing our facility for four months, MiSci lost over \$1 million in unrealized ticket sales, group admissions, and gift shop purchases. We continued to struggle with earned revenue after reopening due to lower admission and field trip sales. In order to weather this situation, MiSci:

- Reduced its staff from 63 to 25 employees and enacted an across-the-board 20% reduction in salary for all employees—including its executive team.
- Successfully applied for and received a forgivable \$350,000 Federal Paycheck Program loan that will help MiSci bring back essential staff prior to our public reopening.

In order to stay solvent, MiSci had to reach its original fundraising goal in spite of the challenges in 2020. We are happy to report that MiSci reached its fundraising target of \$2.6 million. This wouldn't be possible without the incredible generosity of funders like you.

Conclusion

When the Center closed on March 13, we were uncertain if MiSci would survive the pandemic. Fortunately, **like Metro Detroit, MiSci has a history of resiliency.** It is because of funders like you that MiSci was able to persevere in 2020 to reach over 300,000 people and inspired them through the magic of STEM.

COVID-19 has created so many challenges in our community—from work disruptions, to school closures, to stresses on our healthcare system. **MiSci is grateful that it could play a role in helping children by offering fun and engaging ways to learn about science during a time when we needed it most.**

Thank you again for helping MiSci continue to serve children, parents, and schools during 2020. **With your remarkable generosity, MiSci was able to continue to serve local children and inspire the next generation of STEM pioneers right here in Metro Detroit.**

