

# MOVING FORWARD THROUGH INNOVATION



2020 ANNUAL REPORT

### MISSION

To inspire the next generation of innovators and thought leaders by engaging them in exciting hands-on projects solving real world problems to encourage entry into the talent pipeline, bolster self-confidence, and foster a well-rounded mastery of the areas of communication, science, technology, engineering, and mathematics.

#### About C-STEM

C-STEM Teacher and Student Support Services was founded by Dr. Reagan Flowers in Houston, Texas, in 2002. Over the past two decades, the organization has grown to serve students, educators, parents, and STEM supporters across the nation. Throughout the years, thousands of educators and students have benefited from curriculum and supplementary offerings including C-STEM Challenge Day and summer camps.

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MOVING FORWARD THROUGH INNOVATION

2020 was a year like no other. When COVID-19 made in-person learning unsafe, C-STEM did not stand by and wait for a solution. The organization's leaders made a conscious choice to move forward, relying on innovation to continue to fulfill C-STEM's mission in new ways. The organization was itself founded as the solution to a problem — lack of access to STEM education. Seeking new ways to make a difference was the only answer.

Throughout this report, you'll see all the "firsts" we accomplished in 2020. Each and every one is rooted in meeting the needs of underserved students. In the midst of remote learning, canceled supplementary programs and decreased access to resources, C-STEM pivoted quickly to address problems that could not have been predicted even months before. We are proud of all we were able to accomplish, despite the challenges, and thankful for all those who continue to support us.



# 2020 Accomplishments at a Glance

- Dr. Reagan Flowers appointed as a Houston Community College Board Trustee for District IV
- New and expanded partnerships with several major corporations
- Raised \$11,700 to mail C-STEM Anywhere Toolkits
   to students in need
- Partnered on virtual panels and camps
- First federal grant
- Dr. Reagan Flowers selected as Top Educational Innovator of the Year by the International Association of Top Professionals (IAOTP)



#### **CHAIRMAN'S MESSAGE**



## 2020 FEATURED FIRST

C-STEM conducted a national research study to gauge the needs of educators during the global pandemic. Dear Stakeholders, Investors, Collaborators, Family, and Friends,

As the Chairman of C-STEM Teacher Support Services, I am proud and humbled by all we accomplished this year. For the last 19 years, C-STEM has continued to excel at its three core functions: 1) creating innovative hands-on STEM learning opportunities for youth K –  $12^{th}$  grade; 2) providing teacher training and support to aid educators in making STEM exciting and real; and 3) advocating for STEM policies and initiatives on a local, regional, and national level. Though the way we performed these functions in 2020 was different, they still drove our efforts.

We made the very difficult decision to cancel the 2020 C-STEM Challenge. Though we look forward to seeing the teams, the collaboration, the innovation, and the growth each year, keeping everyone safe was a greater service to our community in this unique time. As the pandemic continues to limit in-person events, we look forward to holding the first Virtual Challenge Showcase in 2021. We can't wait to see so many bright young minds in action face-to-face again, but for now, we are excited about this new challenge.

In addition to bringing the cancellation of school and of C-STEM Challenge Day, the pandemic shed a light on the disparity in resources that exists. To address this, our efforts shifted to the C-STEM Anywhere Toolkits, which continued to engage students in STEM at home. It was incredibly rewarding to be part of making a tangible difference during a time when so many students are struggling.

Looking into 2021, there is a lot of uncertainty. We do not know when life will be close to normal again. However, as there is now a vaccine being administered, we are hopeful. Regardless, one thing is certain -- C-STEM will continue to innovate and to find new ways to live out its mission. Our methods will continue to evolve as the world and students' needs do, and that type of evolution is a true representation of STEM and all we aim to accomplish. Thank you for being an essential part of it.

Sincerely,

churldhalud

Ahmad Shaheed C-STEM Board Chairman



#### **PRESIDENT'S MESSAGE**



## 2020 FEATURED FIRST

C-STEM maintained during a time when everything halted, even earning its first federal grant from the 400 Years of African American History Commission. This opportunity will empower us to create a traveling, multi-disciplinary museum exhibit with stories of 'Becoming to Empowering Progress in STEM'. We kick off each year looking forward to carrying out the vision and mission of our organization and we close out the year celebrating all that we have accomplished. As we begin 2021 and look back on 2020, this is as true as ever. Though we may not know exactly what the path forward will look like, we are certain we will continually innovate to meet our goals.

Thank you for your commitment to C-STEM and for your dedication to our students and our community. Your flexibility and continued support in 2020 helped us find new ways to engage students in STEM. Whether through C-STEM Anywhere Toolkits, virtual camps, or online events, we at C-STEM had a constant eye on the pulse of education, looking to make a difference every chance we could.

We were fortunate to celebrate so many "firsts" in 2020. Though we were saddened that many of our innovations were brought about by necessity during a difficult time, we were grateful that technology allowed us to move forward. We also focused on helping those with limited access to technology.

We could not have pursued so many "firsts" without the support of countless amazing partners. In these pages, you'll see generous sponsors who made valuable investments in C-STEM, schools and groups who worked directly with us to help students, our unfailingly devoted board, and community members who continue to embrace our mission.

We are passionate about the work we are doing and appreciate your continued investment in C-STEM. More than ever, our students and teachers are doing their part by embracing innovation and preparing for the future of work.

Together, we continue to provide opportunities that create unlimited possibilities! We continue to evolve to identify learning gaps and to find new ways to address them as the world changes. Every year, our family of supporters grows a little more, and we're so grateful to have you as part of it.

Yours in the Journey of Education,



Dr. Reagan Flowers President and CEO



### **2020 IN PHOTOS**

C-STEM was part of many great initiatives in 2020. Even though in-person events were limited to the first quarter of the year, we were still able to support our local Houston community and key STEM activities. C-STEM founder, Dr. Reagan Flowers, was tapped to serve as a panelist and presenter in a host of virtual forums.



▲ Young Houston elementary student LeReine, better known as "Cookie," held a book driveby for her 7<sup>th</sup> birthday, collecting approximately 500 books for the C-STEM Community Library in lieu of gifts.



C-STEM participated in a 2020 Census car parade in Houston's Third Ward to encourage residents to be counted.



C-STEM is one of many anchor organizations in Houston's 3<sup>rd</sup> Ward that hosts community meetings towards the advancement of cradle to career education initiatives that benefit its residents. C-STEM hosted The Houston Coalition for Equitable Development without Displacement in early 2020.

> 2020 FEATURED FIRST

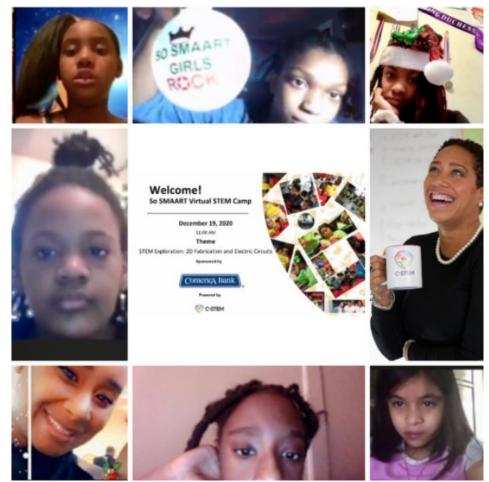


C-STEM participated in the STEM Education Summit with leaders from across the U.S. at Xavier University in February 2020. C-STEM stayed active in the education community by focusing on safety and social distancing.

#### **2020 IN PHOTOS**



With help from our book donors and their continued support of the C-STEM Community Little Library Project, C-STEM donated 100 books to the African Affairs Council.



Thanks to our partnership with Comerica bank, C-STEM partnered with the Trinity, Texas, Chapter of The Links, Inc. to present a virtual camp. Twenty girls from grades five through eight attended the "C-STEM 2D Fabrication and Electric Circuits Virtual Camp" the morning of Dec. 19.

# 2020 FEATURED FIRST

C-STEM held its first virtual camp with The Links, Inc.



▲ Black Girls Do Engineer (BGDE) hosted a virtual Venturous Coding Camp for 15 girls, ranging from second grade to college sophomores. Alex Howell, former C-STEM intern, remained with C-STEM as a volunteer to support the camp on the platform he sourced and set up for the virtual coding camp during his internship.



Dr. Flowers received rave reviews from Non-Profit Leadership students for her in-studio interview with Dr. Bob Sanborn at University of Houston-Downtown.

#### **MAJOR PARTNERSHIPS**

MOVING FORWARD THROUGH NNOVATION



In 2020, C-STEM was fortunate to work with several partners who demonstrated commitment to C-STEM's mission by making generous investments in the organization's work.

Working together with these partners, we were able to adjust plans to ensure their contributions were applied to create meaningful STEM opportunities, despite the pandemic.

## 2020 FEATURED FIRST

C-STEM is developing more virtual activities in its curriculum to accommodate how the world has changed. The Anywhere C-STEM Toolkits was a major 2020 initiative that supported virtual learning, generously sponsored by our partners, Comerica and Verizon.



C-STEM was selected to receive a generous \$100,000 grant from Verizon in 2019, and began putting the funds to work in 2020. This partnership provided scholarships to two feeder patterns (six schools) to participate in the C-STEM Challenge Program.

#### HALLIBURTON

Halliburton named C-STEM the recipient of a \$20,000 grant. These funds enabled C-STEM to begin creating an Augmented Reality/ Virtual Reality/Gamification experiences through our Integrated C-STEM Training Institute (ICTI).



2020 marked the continuation of C-STEM's longstanding partnership with the American Society of Mechanical Engineers (ASME). Since 2002, ASME has supported the mission and vision of our work in the greater Houston community. C-STEM received a generous social investment of \$25,000 from ASME to help our partnering schools create a sustainable C-STEM ecosystem on their campus.



Thanks to our partnership with Comerica bank, C-STEM partnered with the Trinity, Texas, Chapter of The Links, Inc. to present a virtual camp. Twenty girls from grades five through eight attended the C-STEM 2D Fabrication and Electric Circuits Virtual Camp the morning of Dec. 19. Comerica sponsored the C-STEM Anywhere Toolkits, featured on page 10.



### **PROGRAM HIGHLIGHT: C-STEM ANYWHERE TOOLKITS**

MOVING FORWARD THROUGH INNOVATION



## 2020 Featured first

Community members banded together to mail C-STEM Anywhere Toolkits. With the rise of at-home learning due to COVID-19 and the cancellation of C-STEM Challenge Day, we quickly shifted to helping students with hands-on learning from home.

Through the generosity of our partners Verizon and Comerica, as well as several online donors, we were able to provide **170 students** with **850 C-STEM Anywhere Toolkit activities** for free.

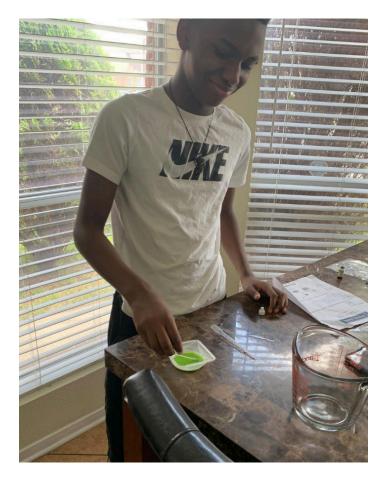
The kits include several hands-on STEM activities that could be completed with simple household items.



MOVING FORWARD THROUGH NNOVATION

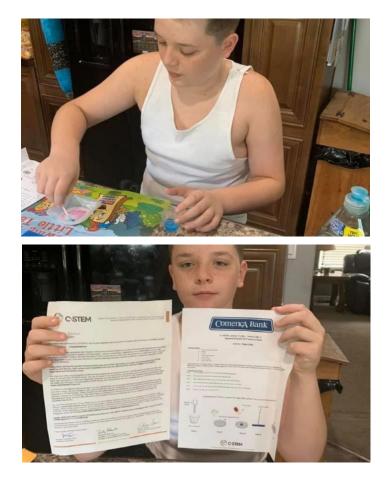
# C-STEM partnered with school districts and organizations to provide Anywhere Toolkits to the students who needed them most.

We also provided toolkits for parents who submitted individual requests. Sheldon Independent School district, Emancipation Park Conservancy, and The Links, Incorporated Dallas Chapter are some of our partners in this effort. Our corporate partners with this effort were Verizon and Comerica; see the experiences of two of the students we helped below.



#### **Donovan Davis**

6<sup>th</sup> grader from Null Middle School/Sheldon ISD "I liked it a lot and I liked when the q-tip made it seem like the dye exploded in the experiment."



#### Brayton Gray

6<sup>th</sup> grader from Null Middle School/Sheldon ISD "I was totally surprised and excited to get the project in the mail, I never get mail and the Magic Milk experiment was really cool and something I had never done."



In 2020, the C-STEM internship program continued to provide real-world work experiences for talented college and university students.

75% of the interns said they chose a C-STEM internship because it aligned with their interests. They had the opportunity to work on exciting projects, including designing prototype kits, robotics and app development.



Jordan Austin Kansas State University Computer Science



Evan Engelhaupt Trinity University Physics and Applied Chemistry







Elizabeth Sandoval University of Houston Mechanical Engineering



TEXAS SOUTHERN UNIVERSITY









## 2020 FEATURED FIRST

C-STEM interns collaborated virtually to complete projects.



Antonio Esono Ndong

**Texas Southern University** 

Electrical and Computer

Engineering

Alex Howell University of Houston Computer Engineering



Jaylon Tasby Wiley College Biology



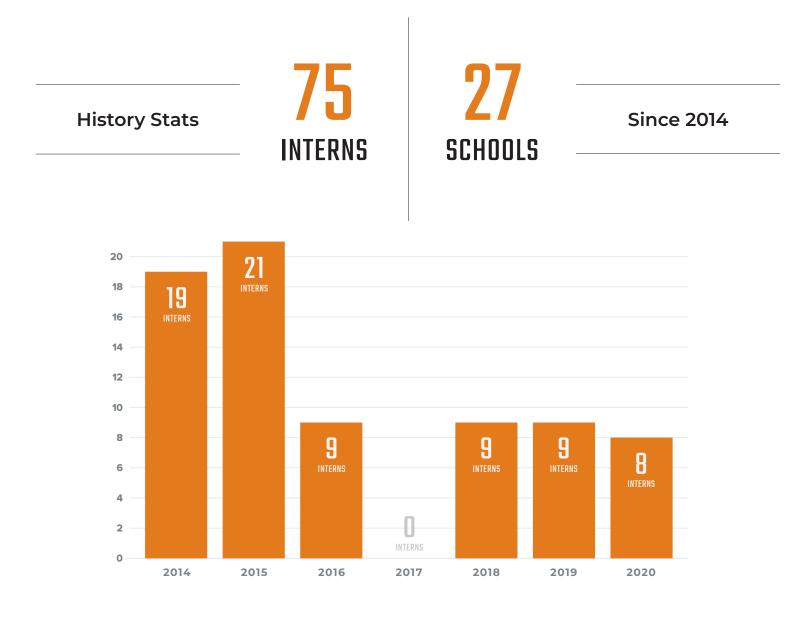
Ayan Mukherjee

University of Texas at Dallas

**Computer Science** 

Kindall Walker University of Texas at Austin Finance





#### Schools

- Carnegie Mellon University
- Cornell University
- Emory University .
- Florida A & M University .
- Hoover High School .
- Houston Community College
- Kansas State University
- Lone Star Community College
- Massachusetts Institute of Technology

- Northeastern University Northwestern University
- Pennsylvania State University .
- Rice University .

•

- **Rutgers University** .
- Saint Agnes Academy •
- Sam Houston University
- St. Thomas University
- Texas A & M University

- **Texas Southern University**
- **Trinity University**
- University of Houston
- University of Houston Downtown
- The University of Nottingham
- University of Texas Austin
- University of Texas Dallas
- University of St. Thomas Houston
- Wiley College

### **IMPACT BY THE NUMBERS**

MOVING FORWARD THROUGH INNOVATION

Despite a lack of in-person events in 2020, C-STEM found new ways to reach out and connect.

**C-STEMbreak Social Network:** 

3,219 Members

EDUCATION COMMUNITY SURVEYED ABOUT PANDEMIC NEEDS



5,943 FOLLOWERS

**313%** INCREASE IN FOLLOWERS OVER 2019

Successful paid advertising strategy boosted the C-STEM Facebook page



6758 FOLLOWERS

75,423

### **2020** FEATURED FIRST

Throughout the year, C-STEM provided resources in the monthly newsletter to help parents and teachers continue to engage their students in STEM.

- **21.4%** Academic Directors and Department Heads
- **22.2%** Career/STEM Instructor Specialist
- 20.4% Teachers
- **14.8%** Directors/Leaders of STEM Organizations
- 9.3% Principles and Administrators
- 5.6% Professors and University Educators
- **3.6%** Students

\* Results will be released in 2021.



TEAM

#### **Executive Roard**

The C-STEM Executive Board brings a diverse range of expertise and talent to the table. Thank you for your time, selfless spirit of giving and unwavering dedication.



**Earl Cummings Chairman Emeritus** 





Myoshia Boykin-Anderson Co-Chair



Marlon K. Scott Treasurer



**Dr. Reagan Flowers** President



Dr. Kelly Coleman Director

### 2020 **FEATURED FIRST**

The C-STEM board met virtually for most of 2020, demonstrating their commitment to the organization's mission, no matter what.

### **Advisory Board**

Michael Aldridge Finance

Joi Beasley

GoGo Communications

Zawadi Bryant **Night Light Pediatrics** 

**Bobby Bryant** DOSS

Lucy Bremond **Retired GE and HISD** 

Antonio 'Tony' Canales Telemundo

LaQuita Cyprian **Chase Bank** 

**Ruthie Esene** Sirvist HRC

Gayle Fallon **Retired HFTA** 

Trisha Frederick Costello, Inc.

Michael Harris Pagel, Davis, & Hill, P.C.

**Renee Logans** Access Data Supply, Inc.

David Medina **Rice University** 

Cherrilyn B. Nedd **NED Solutions, LLC** 

Dr. Martina Ogbonna Physician

Dr. Letitia Franklin Ozoude Physician

Antoinette Jackson Attorney

Dr. Sandra Saldana Ortega **Brand Institute** 

Dr. Robert Satcher **Retired Astronaut (NASA)** and MD Anderson

**Charles Samuel** AIG



Ahmad Shaheed Chairman



**Kristal Palmer** Director

Miloni Shah **C-STEM Alum** 

**Ross Peters Chevron Phillips** 

Susan Taylor Chief Editor, **Emeritus Essence** Magazine

Shomari Williams Verizon

Dr. Frazier Wilson Shell Oil Company

Syalisa Winata **Real Estate** Investment

Laolu Yemitan Five Woods, LLC



# We appreciate our sponsors and non-profit partners.

### Your generosity is changing lives.





### HALLIBURTON









WEALTH STANDARD FINANCIAL













# Your donations are helping C-STEM students rewrite their future.

### We thank you endlessly.

\$25,000+	• ASME	
\$20,000+	• Haliburton	
\$10,000+	<ul><li>Comerica Bank</li><li>Kelly Coleman</li><li>Ahmad Shaheed</li></ul>	
\$5,000+	• 400 Years of African American History Commission	
\$3,000+	<ul> <li>Gulf South</li> <li>Emancipation Park Conservancy</li> <li>Marlon Scott</li> <li>Educational Consulting Services (In Kind Donations)</li> </ul>	
\$1,000+	<ul> <li>Andrew Winata</li> <li>Chenier Energy Inc.</li> <li>Dr. Eugene Barrington</li> <li>Lucy Bremond</li> <li>Martha Tompkins</li> <li>Tejuana Edmond</li> </ul>	
\$200+	<ul> <li>Martina Ogbonna</li> <li>Harriet and Nathan Wasserstrum</li> <li>Cherry Gooden</li> <li>Roger Watkins</li> <li>Felicia Stone</li> <li>Fred Zeidmanz</li> <li>Gerard Rogers II</li> </ul>	<ul> <li>Roland Cruickshank</li> <li>Nelia Manhema</li> <li>Lereca Coxeff</li> <li>Bright Funds Foundation</li> <li>Rosalyn Francis</li> <li>Jonte Lee</li> <li>GE United Way Campaign</li> <li>Menneth Whitmore</li> <li>Denise Duvernay</li> <li>Gerald &amp; Alesia Shealey</li> <li>Kristen White</li> <li>Sangeeta Gad</li> <li>Lereca Coxeff</li> <li>Rosalyn Francis</li> <li>Ro</li></ul>





### Quilting Makes STEM More Accessible

C-STEM recently received one of its most creative, impressive donations in 2020. The Gulf Coast Modern Quilt Guild donated a beautiful quilt, created to celebrate the 50<sup>th</sup> anniversary of the Apollo 11 moon landing. C-STEM auctioned off the quilt in early 2021 to support its programs, raising \$4,500. The Gulf Coast Modern Quilt Guild is made up of women, who are mostly engineers or in science fields. Many of the members work at NASA or in the Oil & Gas industry in Houston.

The guild members were so excited to give back, and inspire young girls thinking about careers in STEM. We at C-STEM are honored to partner with the guild, and thank them for this amazing gift.





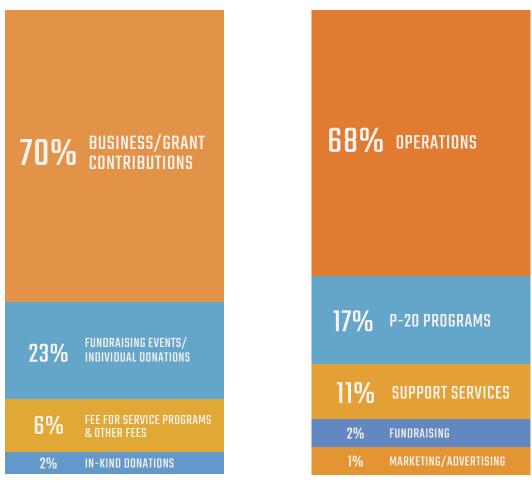
With your donations, we are creating a better future for our youth.

We thank you immensely!

The total operating revenue for the 2020 fiscal year was **\$94,236.91** and in-kind revenue was **\$1,372.72**. Total expenses for the same time period were **\$180,259.55**.

Despite an operating revenue loss of 61.8% over 2019, C-STEM continued to have a direct impact in the Houston community and beyond. In 2020, the organization faced budget shortfalls, staff reductions, COVID-19 restrictions, and closed schools. In the midst of all these obstacles, C-STEM still accomplished as much as possible with limited resources.

Expenses



#### 2020 FINANCIAL PERFORMANCE

#### Revenue

C-STEM

### **TWO DECADES OF INNOVATION**

MOVING FORWARD THROUGH INNOVATION



As we approach the 20<sup>th</sup> anniversary of C-STEM, we find it's important to always take a moment to look back and see how far we've come.

It's all possible because of amazing supporters like you.







C-STEM



## Follow Us & Get Connected.

Get the latest news, event information, and links to our social media on cstem.org.



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