

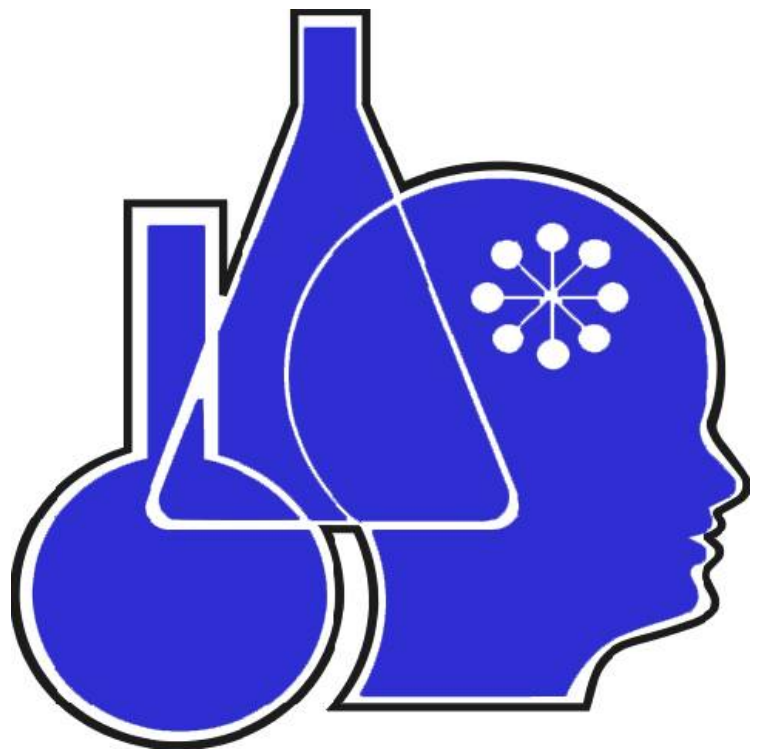
Report

73rd Annual Los Angeles County Science and Engineering Fair

2023

Inspiring Student Discovery
and Innovation throughout
Los Angeles County

LOS ANGELES
COUNTY SCIENCE &
ENGINEERING FAIR



www.lascifair.org

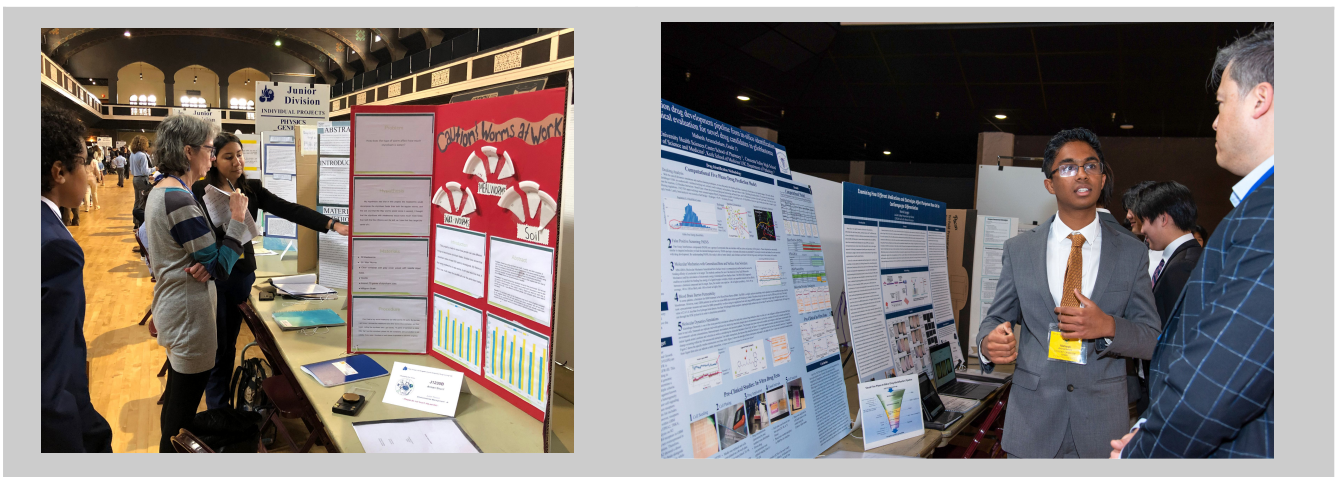


Our Vision

Create challenging learning environments and provide opportunities that inspire and promote future scientists and engineers that will enable them to be innovative and discover solutions to meet tomorrow's challenges.

Mission

The mission of the Los Angeles County Science and Engineering Fair (LACSEF) is to increase literacy and foster diversity, equity, and inclusion in Science, Technology, Engineering, and Math (STEM) education and related fields for Middle and High School students throughout Los Angeles County. LACSEF seeks to promote hands-on learning experiences, inquiry-based science, and design-thinking engineering that extends beyond the traditional classroom setting so that students develop the critical thinking, problem solving, and resilience skills necessary to prepare for future careers in STEM-related fields.



Letter From the Board

Recently, I was asked by a parent and colleague whether science and engineering fairs are really worth the effort. Their school was contemplating conducting their own fair and they questioned whether the significant amount of time and bandwidth required by the students and teachers would be worth it. As someone who has mentored student projects for over twenty years, I provided the usual response about how science and engineering projects help students develop a multitude of skills that will promote their success in whatever they choose to do in the future. I explained how these projects provide a unique opportunity to refine and apply skills from across several different school disciplines, including but not limited to reading, research, note taking, data collection, data computation and analysis, graphing, computer application, writing, and verbal presentation. Perhaps most importantly they develop planning, organization, and time management skills.

As we returned to an in-person event this year, I couldn't help but think that one of the most beneficial skills our students learn from conducting these projects is resilience. It is not uncommon for a student to discover flaws in their scientific methodology or engineering design, requiring them to return to the proverbial "Drawing Board." Learning to accept failure, learn from that experience, regroup, and come back stronger is a true "life lesson."

When the COVID pandemic began in 2020, we were forced to shift to a virtual event in less than two weeks. Continuing to offer the event to students was so important that we were the first science and engineering fair to embrace a virtual platform and one of the few local and regional fairs to conduct their event without a break throughout the pandemic. We were also one of the first to return to an in-person fair this last year.

Returning to an in-person fair was a difficult financial decision, as they cost significantly more money than virtual events. During the COVID pandemic, the costs associated with conducting an in-person event skyrocketed and our donor and sponsorship base shrunk. However, any concerns were overshadowed once the event began. Walking through the fair, it was evident that nothing can replace the person-to-person discussions between students and judges and conversations between students and their peers.

Inspiring and developing tomorrow's STEM professionals is only possible with the partnership of an army of outstanding volunteers, teachers, organizations and caring donors who support LACSEF and the impact it has on the Los Angeles County community. These pages provide just a brief overview of the past year and our plans for the coming years. Thank you for your ongoing support.

Eric Hartung
Incoming President 2023 -2024

Program Overview

Our primary program is an annual Science and Engineering Fair designed to broaden student engagement in STEM. Along with feeder science and engineering fairs at participating schools, this event exposes middle and high school students to inquiry based science and design thinking engineering that takes them beyond the classroom and focuses on real-world problems. The next fair is scheduled for March 10 - 11, 2024 at the Shrine Auditorium. Through their projects, students develop and refine skills that span multiple disciplines, including but not limited to reading, research, critical thinking, math, writing, data analysis, computer science, organization, presentation, and time management.

LACSEF employs a multifaceted approach to promote extracurricular STEM education in the community throughout the year. In addition to our science and engineering fair, we offer the following:

- LACSEF helps close the income gap by providing marginalized youth and their teachers with support needed to cultivate interest, develop their potential in these fields, and empower them to positively impact their communities. Through workshops and teacher mentorship programs we improve the knowledge and skills of teachers in under-resourced schools for implementing their own science and engineering fairs to develop student curiosity and excitement towards these fields. In order to eliminate any financial barriers to participation, we provide fee waivers to any Title I school or school with 80% or more under-represented minorities.
- LACSEF facilitates and develops a network of STEM teachers and professionals to help guide students through the processes of inquiry-based science and design-thinking engineering projects. These role models help students set practical goals, navigate through their project, identify resources and equipment, provide instruction on techniques and use of equipment, explain difficult concepts, and offer guidance on trouble-shooting problems. This process instills curiosity and excitement in STEM.
- LACSEF conducts multiple teacher workshops, designed to improve the knowledge and skills of teachers in implementing hands-on inquiry based science instruction and improving their science inquiry and design-thinking engineering curriculum, something that is at the heart of the Next Generation Science Standards.
- LACSEF conducts a public exhibition during the annual fair. Along with viewing the submitted projects and receiving presentations from students, attendees take part in interactive exhibits. These hands-on activities allow the public to learn about new technologies, interact with STEM professionals, and gain insight into STEM education and career opportunities.

Looking Forward

LACSEF offers its services to over 900,000 Middle and High School students throughout Los Angeles County. Participation is open to all students in public, charter, private, and parochial schools. It is estimated that over 3,000 students are impacted by the event, as students compete in school science fairs that feed into our fair. For many students, this is the only extracurricular access they have to STEM related activities.

STEM education is essential to the health of our economy. According to the Economic and Statistics Administration (ESA), STEM can be a pathway to greater economic independence, as STEM employees earn 29% more than their non-STEM counterparts. Additionally, in order for America to remain competitive, we will need a large STEM labor force to meet the estimated 3.5 million unfilled STEM jobs expected in the United States in 2025 (Lazio & Ford, 2019). For this reason, providing programs that encourage participation in hands-on learning experiences of inquiry-based science and design-thinking engineering is crucial to the success of our country.

As technology continues to advance, it is important that students are prepared for the future. This year, LACSEF is already planning to partner with Broadcom's Coding with Commitment to help students develop the skills they need to keep up with the latest advancements in technology and science.

Closing the STEM achievement gap for female, minority, and low-income students will help to achieve greater economic mobility. Additionally, middle school tends to be the tipping point for students in STEM interest. This year, LACSEF plans to work with community leaders and teachers to develop and initiate a plan to encourage middle school students in underrepresented communities to participate in STEM related activities.

Due to the geographical size of Los Angeles County and the number of participants, LACSEF requires the use of convention hall size space located in a central area of the county (Downtown Los Angeles). Conducting an event of this magnitude is quite expensive and is financed almost entirely by donations, sponsorships and grants. To ensure the long-term financial stability of the organization, we are looking to develop partnerships with more organizations to meet the proposed budget and help build reserves for program expansion. In this regard, LACSEF is looking to increase the number of sponsorship and grant affiliation by 15% over last year.

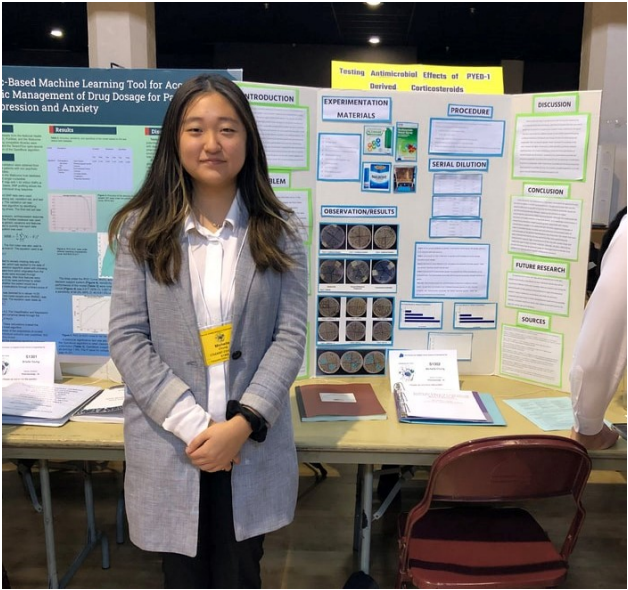
Accomplishments

- The 73rd Annual Los Angeles County Science and Engineering Fair experienced an increase in participation with 660 students registrations, representing 92 schools. While attendance is still below pre-COVID levels, there was a 19% increase in the number of students at the fair.
- Continued progress was made toward improving diversity amongst its participants. According to registration data, 2.3% of participants identified as African American or Black, 2.3% as American Indian or Alaskan Native, 36.4% as Asian or Pacific Islander, 17.7% as Latino or Hispanic, 24.8% as Caucasian or White, and 16.5% of which preferred not to answer.
- Efforts to narrow the gender gap in science and engineering resulted in 52% percent of participants identifying as female and 48% identifying as male.
- Continued progress was made toward closing the income gap by eliminating any financial barriers to participation by granting fee waivers to 35% of the participating schools. LACSEF provides fee waivers to any Title I school or school with 80% or more under-represented minorities.
- LACSEF conducted seven free workshops to help support teachers in implementing and improving their science inquiry curriculum and to help understand the rules and procedures of the competition. There was an increase in schools participating in the Fair, meaning that more Los Angeles County schools are implementing hands-on inquiry based science instruction. Ninety-nine teachers, a 16% increase, attended the seven workshops (one more than the previous year) that were conducted during the year.
- Recent accomplishments of our students demonstrate the potential impact of our program.
 - Eleven high school students, who participated in the 2023 Los Angeles County Science and Engineering Fair, were finalists at the 2023 Regeneron International Science and Engineering Fair (ISEF). The competition featured over 1,600 young scientists representing 49 states and 64 countries across the world.
 - Thirtyfour students received awards at the 2023 California State Science and Engineering Fair (CSEF). This year there were 896 participants from 351 schools throughout the state.
 - Fortytwo students qualified and entered the 2023 Thermo Fisher Scientific Junior Innovators Challenge (JIC). The Top 300 Junior Innovators will be named on September 6th, and 30 finalists will be named on September 20th. All entries are currently under evaluation.
 - One student was amongst the ten winners at the Science News and The New York Times Learning Network STEM Writing Contest. Over 3,000 submissions from middle and high school students from around the world participated in this event.

Financials

73rd Annual Los Angeles County Science and Engineering Fair Income & Expense Report	
Revenue	
Registration Fees	17,150.00
Grants & Sponsorships	70,000.00
Donations	13,121.15
Total Revenue	100,271.15
Operating Expenses	
Rental Space	30,020.00
Event Staff	26,817.36
Equipment Rental	7,025.25
Food Services - Judges & Volunteers	1,926.95
Parking - Event	1,620.00
Banking Fees	57.20
Computer Support	1,200.00
Web Hosting	311.88
Fundraising Support	6,600.00
Insurance	2,649.00
Office Supplies & Printing	1,073.36
Postage	443.74
Software Subscriptions	1,253.14
Tax Preparation & Filing	251.70
Teacher Workshops	118.75
ISEF Registration	2,525.00
ISEF Travel	6,398.14
ISEF Shirts & Supplies	223.22
Sweepstakes Award	750.00
Special Awards	8,000.00
Category Awards	6,825.03
Award Metals	2,717.79
Total Operating Expenses	108,807.51
Net Gain (Loss)	(8,536.36)

Balance Sheet (June 30, 2023)	
Assets:	
Checking Account Balance	\$31,980.03
Deposit on 2024 Venue	16,500.00
Total Assets	48,980.03
Liabilities:	
Outstanding Award Checks	4,020.03
Total Liabilities	4,020.03
Available Funds	36,960.00



Donors

Silver “Universe” Sponsor (\$10,000 - \$19,999)

Broadband
Edison International
Professional Engineers in Government (PECG)
Saban Family Foundation

Bronze “Galaxy” Sponsor (\$5,000 - \$9,999)

Supervisor Kathryn Barger (L.A. Supervisor, 5th District)
Supervisor Janice Hahn (L.A. Supervisor, 4th District)
Supervisor Holly J. Mitchell (L.A. Supervisor, 2nd District)
Michelson 20MM Foundation

Contributor Sponsor (\$1,000 - \$4,999)

California Community Foundation
Desolation Hotel
General Atomics Sciences Education Foundation
Los Angeles County Supervisor Hilda Solis (1st District)
Metropolitan Water District

\$500 - \$999

Aerospace
Phil Bangayan
Mark Wang

Other Donors

Al Arun	Ravit Lonstein	Southern California Paleontological
Amazon Smiles	S Luke	Society
American Vacuum Society	G McGinity	Sree Mahalakshmi Rednam
Easun Arunachalam	Gilberto Martinez	Debbie Simon
Raji Athappan	Ann Matise	Ted Simpson
C & E Merdinian Armenian	Nancy Melucci	Smart & Final
Evangelical School	Stephen Miller	South Bay Business Environmental
Meena Chokkalingam	Kalyani Mohan	Coalition
Nick Cohen	Audrey Munro	Southern California Paleontological
Cindy Gainsforth	Deborah Musher	Society
Steve Golden	Hedy Nazarian	Douglas Spencer
Lisa & Stan Grod	Sumathy Nellaiyappan	Ryan Stone
Ingileif Hallgrimsdottir	Jeffrey Scott Nuttall	Tonia Symensma-Cohen
Becky & Eric Hartung	Panda Express	Sarah & Brian Tannenbaum
Janet & David	Lisa Park	Andy Torosyan
Jerilyn Joel	Maria Perez	Julia Waterman
Judy Joel	Padma Pillai	Casey Wu
Krispy Kreme Donuts	Ralphs Groceries	Bob Yinger
J Lainer-Vos		
C Lin		

In-Kind Donors

American Academy of Motion
Pictures Museum
American Eagle
The Broad
Aquarium of the Pacific
Costco
Curves

Hollywood Wax Museum
Huntington Library, Art Museum,
& Botanical Gardens
Kendra Scott Jewelry
Let's Roam Scavenger Hunts
Maricel Rocha Health Coaching

Pacific Park at the Santa Monica
Pier
Ralphs Groceries
Shrine Auditorium & Expo Hall
Skirball Cultural Center
Vons
Western Bagel

LACSEF is totally dependent on the generous support from industry, businesses, academic institutions, foundations, and individuals committed to inspiring and developing a diverse group of tomorrow's leaders in science, engineering, and technology. We offer a variety of sponsorship opportunities to show your support and provide student participants with meaningful connections to individuals in their field of study.

[Click Here To Donate](#)

For more information about sponsorship opportunities, please contact Eric Hartung at President@lascifair.org.

Executive Board (2022 - 2023)

Nishat Alikhan
President

Benjamin Dickow
Vice-President

Andrea Corrales
Secretary

Eric Hartung
Treasurer

Immediate Past President

Alamelu Arunachalam
Member at Large

Anne Maben
Member at Large

Susan Singh
Member at Large

Meena Arun
Member at Large

John Vassiliades
Member at Large

Advisory Board (2022 - 2023)

Jonathan Abelson

Shahida Alikhan

Sallem Bajrami

Paula Borstel

Linda Anne Chilton

Patrick Denny

Oscar Espinoza

Aidyl Gonzalez

Kevin Kha

Selena Khan Abdullah

Jerilyn Neshek

Jeffrey Scott Nuttall

Andrea Peoples Marwah

Anthony Quan

Kavitha Satya

Tonia Symensma-Cohen

Mark Wang



Los Angeles County
Science and
Engineering Fair



Contact
President@lascifair.org
1107 Fair Oaks Ave.#94
South Pasadena, CA 91030
www.lascifair.org