



Spring 2021

# Synopsys Virtual Championship



Celebrating 62 years of Student Science

## Welcome from Sandra Meditch, SCVSEFA Board President

On behalf of the Board of Director of the Santa Clara Valley Science and Engineering Fair Association, I want to welcome you (remotely) to the virtual 2021 Synopsys Championship.

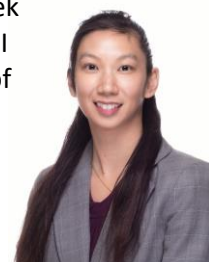
This year has presented a unique learning opportunity for all participants. Science has been in the news more than ever before and we are able to see and hear first-hand how a simple organism affects our lives. We learned how it spreads and what to do to stop it. How a vaccine was developed in record time because it was based on research that had been previously completed on other, similar viruses. It shows how science builds on itself for the betterment of all.

I want to thank the Board Members, Staff, Judges, and Volunteers for their hard work as we entered the new world of a virtual science fair. They worked hard and put time and energy into creating a fulfilling experience for everyone. Thank you to the Synopsys Outreach Foundation for their continued support of this event and science education throughout the Bay Area. To our many, continuing sponsors, thank you for your on-going support during this time. While we were not able to hold an "in-person" Championship, I think the goal of recognizing student scientific discovery will be accomplished. We have all adapted to a new world of working and learning virtually. Hopefully, we will return to an in-person Championship next year and hear the wonderful sounds of scientific learning and feel the energy of discovery.

As with many other events and competitions, **ISEF 2020** showcased as a virtual event. This was my first year having one of my own students qualify, and although we were a little heartbroken that we would not be able to travel to the physical competition and experience the fair week, it did not detract from the rewarding feeling associated with that honor. Students worldwide submitted videos of themselves dancing for the opening session video montage and Maya Ajmera, CEO of the Society and Science for the Public and the Publisher of ScienceNews magazine, welcomed us to the event.

The Regeneron ISEF was held on a conference platform that allowed attendees to behave as an in-person event, including interactive chats at exhibit booths, workshops, and network with fellow research mentors. The week offered talks from Nobel Laureates, representatives from the USPTO and leaders of STEM entrepreneurship. I was invited to present in a teacher workshop session alongside colleagues from Arizona and Missouri. Each of us discussed one piece of "Teaching Research for Students". Despite the different demographics of students with whom we work, we found similarities in their needs and opportunities that we can provide them.

Even though the projects entered into ISEF represents a year's worth of work for students and their mentors, it is more than just an end goal of affiliated science fairs. The ISEF experience is a refreshing culmination that helps us to realize no matter how our students fare or which of our students even qualified, there is value in the STEM community that grows from it. Together we foster a population who learns to be curious and consequently shares the love of discovery and scientific contribution with others. -Jennifer Claudio, Oak Grove HS



## 2020 Synopsys Championship

### The Fair:

- 884 students
- 424 teachers
- 386 volunteer judges
- 42 community volunteers

### Students:

- 326 middle school students
- 558 high school students

### 2019 Awards:

- ~40% of students received awards
- 328 projects earned category awards (1st, 2nd or Honorable Mention)
- 218 projects received special awards from sponsoring organizations.
- 64 students competed at CSEF, ISEF and Broadcom MASTERS



NASA Science

**MARS** 2020 MISSION  
PERSEVERANCE ROVER

- Mission Name: Mars 2020
- Rover Name: [Perseverance](#)
- Main Job: Seek signs of ancient life and collect samples of rock and regolith (broken rock and soil) for possible return to Earth.
- Launch: July 30, 2020
- Landing: Feb. 18, 2021, Jezero Crater, Mars



source: mars.nasa.gov

# Congratulations to the 2020 Winners!

Tyler Adams	Gargi Deshpande	Maryam Ismail	Udita Mahajan	Sasvath Ramachandran	Sofia-Lynn Teresi
Anshika Agarwal	Amruta Dharmapurikar	Sachin Iyer	Krish Maheshwari	Kailash Ranganathan	Dinesh Thirumavalavan
Sia Agarwal	Sidharth Dharmasanam	Kate Jackson	Marisa Malto	Jyoti Rani	Joseph Thomas
Avishi Agastwar	Brandon Do	Isha Jagadish	Harsha Manamala	Aditya Rao	Betsy Tian
Ashwika Agrawal	Madison Doan	Rhea Jain	Harshini Manian	Anoushka Rao	Daniel Ticau
Vardhan Agrawal	Anika Dontu	Aditya Jaiswal	Ishana Manikanda	Pranathi Ravipati	Pauline Rogers
Javeria Ahmed	Aaryan Doshi	Shloka Janapaty	Sanjana Manikandan	Sudeepthi Ravipati	Jonah Tien
Shray Alag	Veer Doshi	Dhruv Jatkar	Himani Manjunath	Brenna Ren	Rohan Tirumala
Adarsh Ambati	Vishnu Duggirala	Taara Jayaraj	Neha Mannem	Emily Ren	Kaushik Tota
Eric Amith	Malavika Eby	Daniel Jeznach	Sudithi Manthathi	Danna Rengifo	Aadit Trivedi
Rishikesh Anand	Liam Ellerby	Eshani Jha	Melvin Mathew	Sneha Revanur	James Tsaggaris
Hrishikesh Ankireddi	Michael Eng	Sanjana Jilla	Nidhi Mathihalli	Edward Ross	Kelly Tung
Saarika Apte	Salma Farahat	Tim Jing	Natasha Matta	Sohom Roy	Hoshita Undella
Russel Arbore	Aaron Feldman	Callie Johnson	Liam McHugh	Franklin Ruan	Rebeca Urdaneta
Sadik Aref	Alice Feng	Lucy Johnson	Kristine McLaughlin	Sanjana Ryali	Arthi Vaidyanathan
Vivek Atmuri	Nathan Fichtenholz	Diya Kadadi	Anav Mehta	Gabe Sachse	Rohit Vakkalagadda
Swathi Badrinarayanan	Ryan Field	Pranav Kakhandiki	Rakesh Mehta	Luke Sage	Isabel Vargas-Hurlston
Leo Bailloeul	Jason Fischer	Nikitha Kalahasti	Katherine Mekechuk	Arnav Saharan	Thresiamma Vazhaeparambil
Maheswari Bajji	Ben Freda-Eskenazi	Alisha Kalley	Kenneth Meng	Aasees Sandhu	Divya Venkataraman
Akhilesh Balasingam	Gabriel Futsum	Meera Kalluraya	Fazal Mittu	Sidak Sandhu	Krithika Venkatasubramanian
Aeshon Balasubramanian	Nesyah Galatin	Bhargava Kanakapura	Zara Mody	Achintya Sanjay	Anirudh Venkatraman
Shawnuk Ballal	Saurav Gandhi	Ishan Kar	Aziza Mohammed	Miguel Santiago	Shashank Venkatramani
Snikitha Banda	Serena Gandhi	Ojas Karnavat	Logan Morley	Anushka Sanyal	Ishita Verma
Ruhi Batchu	Ashrith Gandluru	Nithika Karthikeyan	Aryanna Morte	Josh Sanyal	Aakash Sri Vetcha
Eleni Bauman	Aryan Ganesh	Avani Karvat	Ryan Mostafavi	Bidipta Sarkar	Maahi Vidyarthi
Vivek Bharati	Aarav Garai	Arin Kathapurkar	Safaa Mouline	Sreoshi Sarkar	Charu Vijay
Arnav Bhardwaj	Samuel Geevarghese	Tavleen Kaur	Atreyi Mukherjee	Arjun Sathish	Annika Viswesh
Aditi Bharti	Daniel Ghasemfar	Micah Keegan	Krishay Mukhija	Nikita Senthil	Agatha Vu
Karanvir Bhasin	Anusha Ghosh	Jessica Kendrick	Kavita Murthy	Shailesh Kumar	Celine Vu
Aaina Bhatia	Ayush Ghosh	Usman Khan	Aarnav Nagabhirava	Joseph Seok	Stephanie Vu
Anant Bhatia	Annesh Ghosh	Nicole Kheyfets	Anika Nagavara	Deven Shah	Anderson Wang
Niranjan Bhatia	Jordan Giang	Sophia Khubchandani	Namrata Nair	Praneel Shah	Franklin Wang
Anish Bhethanabotla	Jaiveer Gill	Justin Kim	Yash Nasikkar	Rishita Shah	Kaitlyn Wang
Gautam Bhooma	Jia Sidhu Gill	Minjeong Kim	Vivek Nayyar	Arnav Shailesh	Kallie Wang
Emma Biswas	Samanya Girish	Gurmehar Klair	Dylan Ng	Jason Shan	Sasha Wang
Julia Biswas	Samarth Girish	Alon Knaen	Nadine Ngo	Aditya Sharma	Sophie Wang
Romina Blanco-Sarmiento	Karen Glenn	Riley Kong	Caitlin Nguyen	Reva Sharma	Michelle Wei
Zachary Blue	Swati Goel	Matthew Koo	Ngoc Nguyen	Siddharth Sharma	Ishana Wokhlu
Elie Bodner	Avantika Gokulnatha	Krithi Koodli	Sheila Nguyen	Yash Sharma	Ishana Wokhlu
Sanjit Borle	Aadit Golwala	Maria Korolik	Teradyne Nguyen	Stanley Shen	Jenny Wong
Niharika Bozza	Yash Golwala	Nicole Krockenberger	Kento Nishi	Aram Siddiqui	Taylor Wong
Eliot Bronstein	Victor Gong	Danica Kubota	Joaquin Ortiz	Diptanshu Sikdar	Tobias Worledge
Janya Budaraju	Ruby Goodwin	Om Kulkarni	Aryah Oztanir	Ian Sim	Benjamin Wu
Ynna Buriel	Caitlin Gorin	Soham Kulkarni	Arush Pal	Dashmi Singh	Christine Xu
Iris Cai	Ishan Goyal	Avani Kulshreshtha	Kavya Pandrangi	Ria Sinha	Connie Xu
Grace Calfee	Ramit Goyal	Sakshi Kumar	Khushi Parikh	Sangyani Sinha	Paulina Xu
Aman Chandra	Roy Gross	Grace Kuo	Chaelee Park	Martyna Sobczyk	Sidra Xu
Nikhil Chandra	Elisa Grothe	Emily Kwan	Atmaja Patil	Jennifer Song	Dawson Xuan
Audrey Chang	Aeliya Grover	Jordan Labio	Aalok Patwa	Navon Soussan	Arihan Yadav
Spencer Chang	Alexander Guh-Siesel	Anoushka Lakshmi	Samantha Pelts	Vedikas Sridharan	Saamya Yadav
Anya Chatterjee	Saarika Gunapu	Chinmay Lalgudi	Andrew Peng	Nainika Srinivasan	Aaron Yan
Rithvik Chavali	Alex Guo	Allison Lam	Rishab Perati	Nethra Srinivasan	Joyce Yang
Akhilesh Chegu	Brandon Guo	Ella Lan	Nishant Perla	Ananya Sriram	Russell Yang
Claire Chen	Amishi Gupta	Hubert Lau	Aaron Peter	Samhita Srivatsan	Albert Yao
Cynthia Chen	Pakhi Gupta	Serena Lau	James Pham	Aaron Stevens	Henry Yao
Dawson Chen	Rishee Gupta	Uyen-Vy Le	Brendon Phuong	Andrew Su	Allen Ye
Jason Chen	Miranda Gutierrez	Alan Lee	Ganesh Pimpale	Mitee Su	Alice Ye
Rosie Chen	Sally Ha	Elaine Lee	Aryan Ponnuru	Sean Su	Ella Yee
Impana Chimmalagi	Medini Halepete	Karen Lei	Manasa Pooni	Neel Sudhakaran	Vivek Yella
Dylan Chin	Clara Hansen	Milo Levin	Ravi Prabhune	Ashika Sugali	Sanjana Yeluri
Tarun Chiruvolu	Roger He	Rachael Li	Tejas Prabhune	Pranav Sukesh	Nicholas Yi
Myung Choi	Aminah Hedges	Aileen Liao	Aashna Prasad	Harita Sunkara	Michaela Yip
Kyle Ciurczak	Eileen Ho	Jacob Liao	Rishi Manit Prasad	Meera Suresh	Reiko Yoshimura
Clarissa Co	Madeline Ho	Raina Liem	Shachi Prasad	Om Suthar	Albert Yu
Jason Co	Sarah Honer	Madison Lin	Suhas Prasad	Samika Swamy	Jonathan Yu
Olivia Colace	Annabel Honigstein	Adrian Liu	Nicolas Quijano	Sonia Swamy	Andrew Yuan
Audrey Cui	Connor Houle	Maggie Liu	Eshan Rachapudi	Arnab Swaroop	Michael Yuan
Andrew Dang	Sheryl Hsu	Nathan Liu	Margaret Radke	Muhaab Syed	Alexander Zhang
Ashley Dang	Terry Hsu	Sophia Liu	Noam Radwin	Zaina Syeda	David Zhang
Hasitha Dangeti	Austin Hu	Thomas Liu	Adhip Raghunathan	Elizabeth Szeto	Joseph Zhang
Jadelynn Dao	Flora Huang	Andrew Lu	Chaitra Raghupathi	Aditya Tadimeti	Michael Zhao
Jaythan Dao	William Huang	Heidi Lu	Gautham Raghupathi	Isita Talukdar	Catherine Zhou
Aryia Dattamajumdar	Arisa Huda	Fiona Luo	Elisha Rahardja	Alexis Tan	Iris Zhou
Harsh Deep	Royal HueyIII	Jiayan Luo	Anyia Raju	William Tang	Sally Zhu
Advit Deepak	Madison Huynh	Keith Maben	Vibha Raju	Mahit Tanikella	Vivian Zhu
Diya Desai	Aditya Indla	Gavin Mace	Rishi Rakesh	Akshara Taraniganty	Xingying Zhu
Samarjit Deshmukh	Ahmad Ismail	Samskruthi Madireddy	Anushka Rala	Bella Teresi	Zalman Zucker
					Ethan Zuo



# Special Awards and Sponsors of Special Awards

Al Foster Award  
 American Association for Laboratory  
 Animal Science, N. California  
 American Chemical Society, Santa  
 Clara Valley Local Section  
 American Institute of Aeronautics  
 and Astronautics (AIAA)  
 Intelligent Systems Award  
 American Society of Civil Engineers  
 San Jose Branch  
 American Society of Engineers of  
 Indian Origin  
 A Society for Materials (ASM),  
 Santa Clara Valley  
 Association for Computing  
 Machinery (ACM)  
 SF Bay Area Chapter

Association of Women Geoscientists,  
 SF Bay Area Chapter  
 Broadcom Coding with Commitment  
 Broadcom MASTERS  
 Bruce Kawanami Engineering Award  
 California Association of Professional  
 Scientists (CAPS)  
 California Botanical Society  
 Dave Parker  
 Green Ninja  
 IBM Award  
 Institute of Electrical and  
 Electronics Engineers (IEEE)  
 Intel Excellence in Computer  
 Science Award  
 Northern California Institute of  
 Food Technologists

thank you

Regeneron Biomedical Science Award  
 SAMPE- Society for the Advancement  
 of Material, Process Engineering  
 Santa Clara Valley Science &  
 Engineering Fair Association - Board  
 of Directors Awards - High School  
 Santa Clara Valley Science &  
 Engineering Fair Association Board  
 of Directors Award - Middle School  
 SETI Institute  
 SPV Market Researchers  
 United States Navy and Marine Corps  
 Wireless Communications Alliance  
 Zeidman Award

If your project was selected as a First,  
 Second, Honorable Mention or a Special Award winner...



... your awards will be mailed to your home. Check out  
[www.science-fair.org](http://www.science-fair.org) after March 31st to see if you are a winner.

Volunteers make it happen for our students. You can join our  
 wonderful team of volunteers at [www.science-fair.org](http://www.science-fair.org).

Non-affiliated 2020 Volunteers returning for 2021	32
Scientific Review Committee Volunteers	16
SCVSEFA Staff and Board Members at the Championship	22

## Santa Clara Valley Science & Engineering Fair Association (SCVSEFA)

**Officers:** President: Sandra Meditch, President-Elect: TBD

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 Tara Samuels, Lynn Shannon, Lew Smith, Sandi Yellenberg, M.A.,  
 Xi Zhao-Wilson, Ph.D.

**Newsletter:** Donna Richardson

Our mission is to awaken more  
 students to the wonder and power  
 of science, technology,  
 engineering and mathematics  
 (STEM).



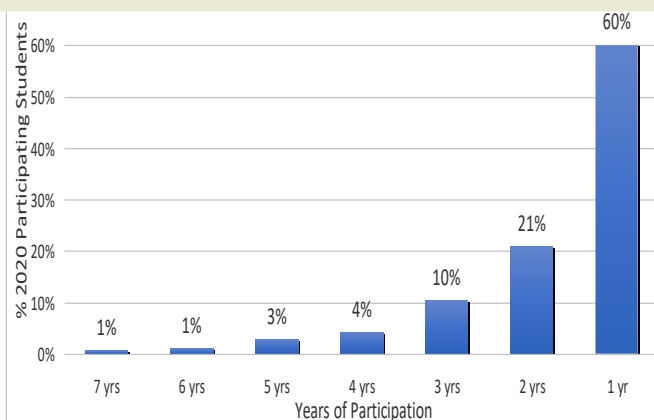
## Years of TEACHER Participation In the Synopsis Championship



Teachers with >10 years  
 participation:

Narquiz Cervantes,  
 Silver Creek HS  
 Debra Dimas,  
 Santa Teresa HS  
 Renee Fallon,  
 Monta Vista HS  
 Heather Mackewicz,  
 Stratford School – Sunnyvale  
 Raynor  
 Anuradha Murthy, BASIS  
 Independent Silicon Valley  
 Thuy-Ahn Nguyen,  
 Archbishop Mitty HS  
 Barjinder Sabherwal,  
 Evergreen Valley HS

## 2020 Championship - Years of Student Participation



We gratefully acknowledge those who support the **Synopsys Championship** and thank those who support STEM education by allowing their employees time to volunteer at the event. Thanks to the students, parents, teachers, mentors, schools and for making the Synopsys Silicon Valley Science & Technology Championship a premier event.

**Major Sponsors** (\$75,000+ annually)

The Synopsys Outreach Foundation

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Pat Castro, In memory of Peter S. Castro  
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Broadcom Foundation



**Patrons** (\$2,500-\$9,999 annually)

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Kawanami Family  
In memory of Bruce Kawanami  
Republic Urban Properties  
Michael Van Every

to our  
generous donors... **THANK YOU**



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Chung-Ho and Sukan Huang  
Ming Huang

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Veena and Sunil Jain,  
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Katherine Jarvis  
Carole Kalcic  
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in recognition of Krithi Koodli  
Anjaney Kottapalli  
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Sandi and Steve Yellenberg  
Zhu Wei Family Trust  
Dr. Xi Zhao-Wilson  
Anonymous (2)

\*\* Matching gifts \* Gifts in kind

The Santa Clara Valley Science and Engineering Fair Association needs your support to continue the Championship. Although the Synopsys Outreach Foundation's donation covers over 40% of our costs, IRS regulations requires at least one third funding from small donations (project registration fees, interest, and t-shirt sales do not count). Here is where you can help. If you think the Synopsys Championship is a worthwhile event, please consider donating. We prefer checks written directly to SCVSEFA because we receive 100% of the donation. You can also donate via our website via PayPal, which charges a fee per transaction. As a 501(c)3 non-profit, donations are tax deductible. Please send checks to:

**SCVSEFA, Treasurer, PO Box 307, Los Altos, CA 94023-0307.**

If you are a volunteer or donor and work for a company that does **matching**, please take a minute to fill out the company form for hours you worked or any donations you made. If SCVSEFA is not already in your company's list of qualified organizations for matching, contact us at [treasurer@science-fair.org](mailto:treasurer@science-fair.org).

