



**FIRST ROBOTICS ONTARIO DISTRICT COMPETITION**  
**Centennial College**  
**March 8-10, 2024**

**CRESCENDO**<sup>SM</sup>

PRESENTED BY **HAAS**  
Gene Haas Foundation

**FIRST IN SHOW**<sup>SM</sup>

PRESENTED BY **Qualcomm**



# WELCOME

Greetings, *FIRST*® Robotics Competition teams and welcome to another year filled with creativity, big ideas and bold action!

We're thrilled to see you take the stage for *CRESCENDO*™ presented by Haas, part of the 2023-2024 cross-program season, *FIRST*® IN SHOW™ presented by Qualcomm. This year, we're shining a spotlight on the role STEM plays in the arts and how it empowers young people, like you, to design and build a world of endless possibilities.

Take a moment to consider just how intertwined STEM and the arts often are. So much of the artistic content we produce and consume has been inspired and brought to life by STEM. It's our STEM skills that help us design a logo, costume, or movie set from a blank canvas, 3-D print a sketch, light the stage for a photoshoot, or rock an arena with a jaw-dropping performance. Our skills and knowledge empower us to be creative, pursue our big ideas, and build what some may only dream of.

To our teams competing this year, congratulations. Your creative spirit, acts of *Gracious Professionalism*®, and collective passion for making a positive difference in the world have touched the hearts of your peers, mentors, local communities, and all of us here at *FIRST*.

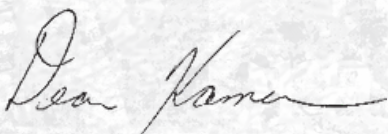
And to the mentors, parents, volunteers, partners, sponsors, donors, alumni, and many supporters who invest in *FIRST* participants in countless ways: thank you. You empower students to explore their full potential, forge new paths, and find ways to make an impact, do good, and inspire others to do the same.

As you all step onto the competition stage, remember that *FIRST* is *More Than Robots*®. Your journey with *FIRST* will help you design your life's path, from building perseverance as you overcome obstacles to illuminating career paths you might not have considered – including those in the arts. Just ask our esteemed alumni, some of whom became audio engineers, architectural visualization specialists, VFX artists, cinematographers and more, all while remaining an integral part of our STEM community.

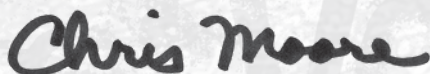
By embracing the connections between STEM and the arts, you're not only shaping the future of technology and science but pioneering the frontiers of human creativity.

The boundaries of what's possible are stretched and reshaped by your collective imagination and resilience, and we can't wait to see the wonders you'll create.

With that said – Lights, Camera, STEAM!  
Sincerely,



Dean Kamen, *FIRST* Founder



Chris Moore, *FIRST* CEO



Dean Kamen



Chris Moore



## Welcome to the 2024 *FIRST*® Robotics Competition Centennial College District Event



Hello and welcome to the School of Engineering Technology and Applied Science at Centennial College.

We are very excited to be hosting this year's FIRST Robotics Competition. FIRST Robotics' stated mission of inspiring young people to pursue further studies and careers in the fields of science, technology, and engineering very much aligns with my School's mission of educating students for career success.

Our School consists of four departments spread across three campuses, specifically Applied Biological and Environmental Science, Advanced Manufacturing and Automation Technology, Information and Communication Engineering Technology, and Sustainable Design and Renewable Energy.

With our strong commitment to meeting student and employer needs by providing multiple, industry relevant pathways to learning, we offer a full range of programs from certificate, apprenticeship, diploma, advanced diploma, graduate certificate, and degree. In short, we are an Engineering Technology and Applied Science powerhouse.

I encourage you to explore our campus while you are here and consider your future in the exciting fields of engineering technology and applied science.

Good luck in this weekend's competition. Your active engagement and embracing opportunities to learn make you all winners!!

Regards,

Patrick Kelly

Dean, School of Engineering Technology and Applied Science



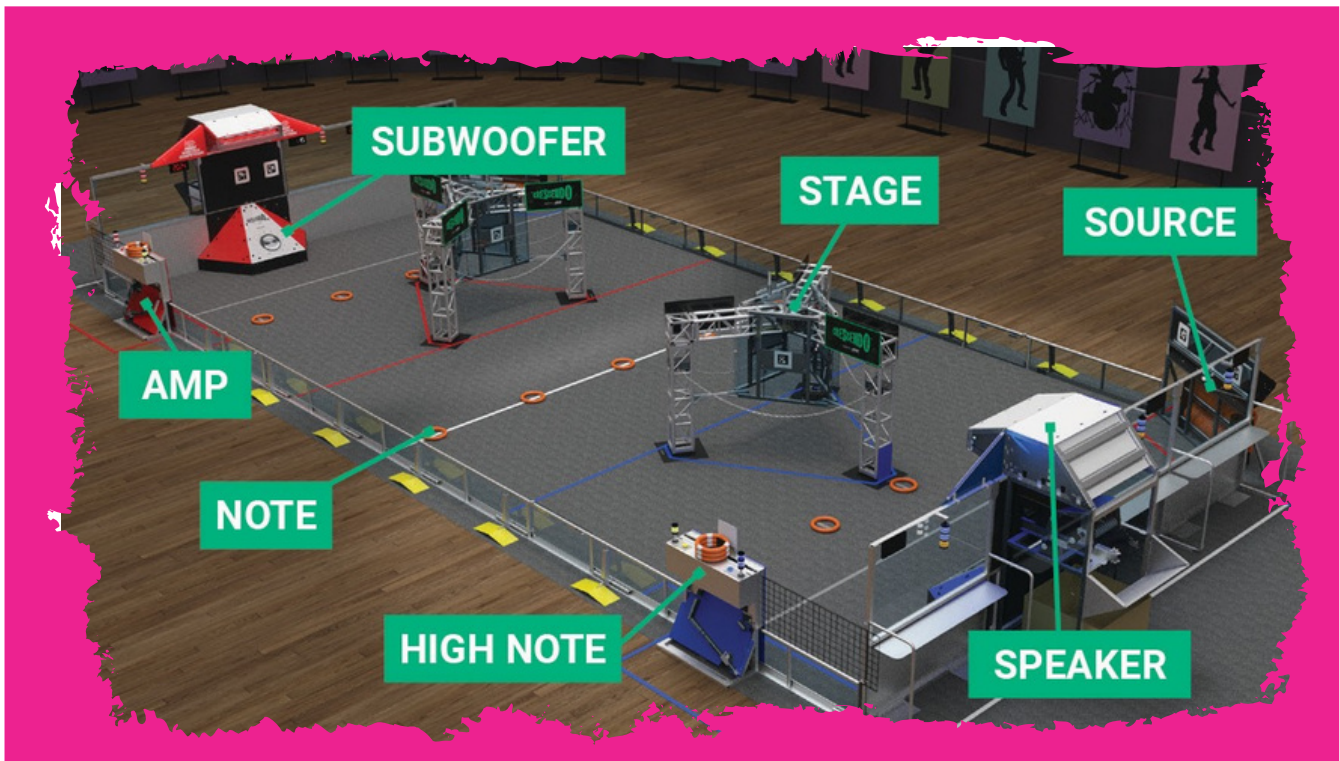
# CRESCENDO<sup>SM</sup>

PRESENTED BY  HAAS  
Gene Haas Foundation

## Gameplay

Inspired by the art and experiences that entertain us and move us CRESCENDO<sup>SM</sup> presented by Haas will shine the spotlight on the impact that engineering and innovation have on art.

- Teams will use their STEM skills and creative power to turn up the volume as they design, build, and program their robots for action-packed game play.
- Each match begins with a 15-second autonomous period, during which robots operate only by pre-programmed instructions to move from their starting positions and score game pieces, called notes, into their two goals: the speaker and the amp. They also use this time to collect additional notes from around the field.
- In the remaining 2 minutes and 15 seconds, drivers control their robots and continue earning points through strategic match play. Once two notes are scored in an alliance's amp, the human player can hit a button to increase the value of notes scored in their speaker for 10 seconds.
- At the end of the match, robots race to climb on chain, score notes in a pocket called a trap, and harmonize by hanging multiple robots on a single chain. Humans throw high notes onto their microphones to boost points associated with robots on the corresponding chains.
- The alliance with the highest score at the end of the match wins!

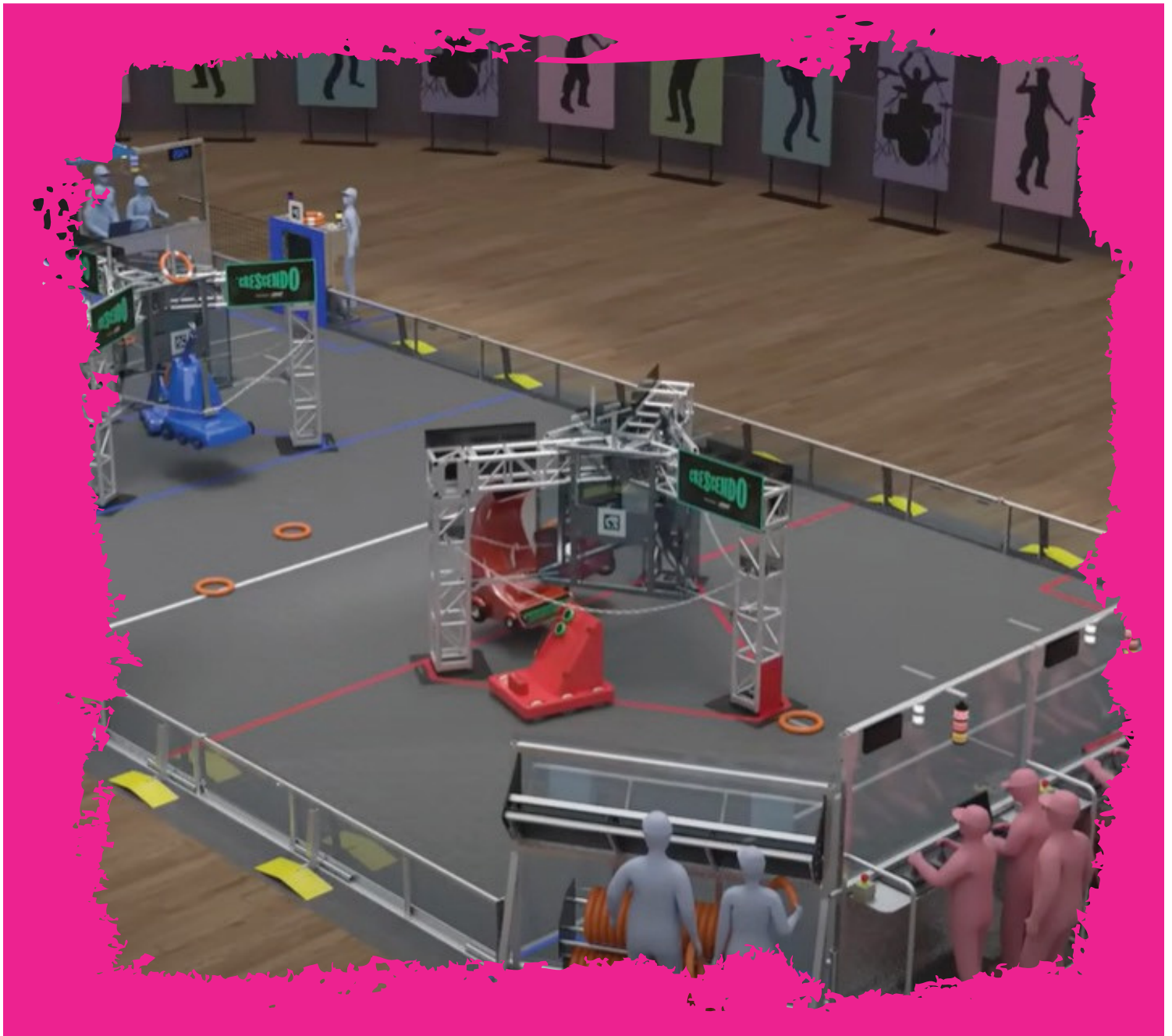




View the 2024 game animation for the 2024 *FIRST* Robotics Competition game, CRESCENDO.



Scan to View Animation





This is a complete list of *FIRST* Robotics Competition awards. Please note that different event types (e.g. Regional events, District Events, District Championships, Championship) offer a different set of awards. Not every award is presented at every *FIRST* Robotics Competition event.

#### Autonomous Award

Celebrates the team that has demonstrated consistent, reliable, high-performance robot operation during autonomously managed actions. Evaluation is based on the robot's ability to sense its surroundings, position itself or onboard mechanisms appropriately, and execute tasks.

#### Creativity Award *sponsored by Rockwell Automation*

Celebrates creativity that enhances strategy of play and was intentionally designed and not discovered.

#### Digital Animation Award *sponsored by AutomationDirect.com*

Celebrates the art of the digital animation and its close relationship to STEAM (Science, Technology, Engineering, Art, and Mathematics).

#### Engineering Inspiration Award

Celebrates outstanding success in advancing respect and appreciation for engineering within a team's school and community.

#### Excellence in Engineering Award

Celebrates the team that demonstrates a professional approach to the design process.

#### Finalist

Celebrates the Alliance that makes it to the final match of the competition.

#### *FIRST* Dean's List Award

Celebrates outstanding student leaders whose passion for and effectiveness at attaining *FIRST* ideals is exemplary.

#### *FIRST* Impact Award

The most prestigious award at *FIRST*, it honors the team that best represents a model for other teams to emulate and best embodies the purpose and goals of *FIRST*.

#### Founder's Award

Recognizes the organization or individual that has contributed significantly to the growth of *FIRST*.

#### Gracious Professionalism Award

Celebrates outstanding demonstration of *FIRST* Core Values such as continuous *Gracious Professionalism* working together both on and off the playing field.

#### Imagery Award *in honor of Jack Kamen*

In honor of Jack Kamen, Dean's father, for his dedication to art and illustration and his devotion to *FIRST*. This award celebrates attractiveness in engineering and outstanding visual aesthetic integration of machine and team appearance.

#### Industrial Design Award *sponsored by General Motors*

Celebrates the team that demonstrates industrial design principles, striking a balance between form, function, and aesthetics.

#### Innovation in Control Award

Celebrates an innovative control system or application of control components – electrical, mechanical, or software – to provide unique machine functions.

#### Judges' Award

During the course of the competition, the judging panel may decide a team's unique efforts, performance, or dynamics merit recognition.

#### Quality Award

Celebrates machine robustness in concept and fabrication.

#### Rookie All-Star Award

Celebrates the rookie team exemplifying a young but strong partnership effort, as well as implementing the mission of *FIRST* to inspire students to learn more about science and technology.

#### Rookie Inspiration Award

Celebrates a rookie team's outstanding success in advancing respect and appreciation for engineering and engineers, both within their school, as well as in their community.

#### Safety Animation Award *sponsored by UL Solutions*

Recognizes the team that submits a short animated film that best promotes the current season's team safety focus.

#### Team Spirit Award

Celebrates extraordinary enthusiasm and spirit through exceptional partnership and teamwork furthering the objectives of *FIRST*.

#### Team Sustainability Award *sponsored by Dow*

Celebrates and recognizes a team which has developed sustainable practices to have a positive environmental impact and achieve long-term continuity.

#### Volunteer of the Year Award

Presented to an individual, business, or organization that consistently excels in their efforts, with proven results in the areas of impact, leadership, personal commitment, community, and historical contributions.

#### Winner

Celebrates the Alliance that wins the competition.

#### Woodie Flowers Finalist Award

Presented to an outstanding Mentor in the robotics competition who best leads, inspires, teaches, and empowers their team using excellent communication skills.



# CRESCENDO<sup>SM</sup>

PRESENTED BY   
Gene Haas Foundation



## STATS

(AS OF 01/04/2024)

- 33rd Season Game: CRESCENDO<sup>SM</sup> presented by Haas
- 3,468 Teams
  - 3,141 Veteran Teams
  - 327 Rookie Teams
- 86,700+ Youth Team Members
- 27,700+ Mentors/Adult Supporters
- 28 countries:
  - Australia (36 teams) Israel (62 teams)
  - Azerbaijan (1 team) Japan (6 teams)
  - Belize (1 team) Mexico (86 teams)
  - Brazil (57 teams) Netherlands (3 teams)
  - Bulgaria (1 team) Panama (1 team)
  - Canada (202 teams) Philippines (1 team)
  - China (22 teams) Poland (1 team)
  - Chinese Taipei (28 teams) Romania (1 team)
  - Colombia (1 team) Singapore (1 team)
  - Croatia (1 team) Sweden (1 team)
  - Czech Republic (2 teams) Switzerland (1 team)
  - Dominican Republic (2 teams) Türkiye (138 teams)
  - France (3 teams) United Kingdom (3 teams)
  - India (6 teams) USA (2,800 teams)

## EVENTS

- 144 Live Kickoff events and streaming on FIRSTtv
- (01/06/2024) 62 Regional Events
- 98 District Events
- 11 District Championships:
  - Chesapeake, Indiana, Israel, Michigan, Mid-Atlantic, New England, North Carolina, Ontario, Pacific Northwest, Peachtree, Texas/New Mexico Districts
- 1 FIRST® Championship Event: April 17 - 20, 2024

## KIT OF PARTS FACTS

- Items from more than 65 in-kind donors
- Nearly 500 different items distributed via the Kit of Parts system
- More than 72 tons of Kickoff Kit materials shipped all over the world by FedEx (weighing more than 150 grand pianos)

## ROBOT FACTS

- Weight: up to approximately 125 lbs.
- total Robots are remotely controlled
- Powered by a 12-volt battery

## FIELD FACTS

- Playing area: 27' W x 54' L
- Teams score game pieces, called Notes, in their Amp and Speaker
- As time runs out, robots race to get onstage and deliver Notes to their Traps

## ALUMNI

- Participants and alumni of FIRST programs gain access to education and career discovery opportunities, connections to exclusive scholarships and employers, and a place in the FIRST community for life. Visit [firstinspires.org/alumni](https://firstinspires.org/alumni)

**FIRST IN SHOW<sup>SM</sup>**

PRESENTED BY 



For the latest information on these events, visit [frc-events.firstinspires.org/](http://frc-events.firstinspires.org/)

**Feb 26-27**

ISR District Event #1  
Hadera, Israel

**Feb 28-29**

ISR District Event #2  
Hadera, Israel

**Feb 28-Mar 02**

Canadian Pacific Regional  
Victoria, BC

Brazil Regional  
Brazilia, Brazil

Festival de Robotique Regional  
Montreal, QC

Greater Pittsburgh Regional  
Pittsburgh, PA

Lake Superior Regional  
Duluth, MN

Northern Lights Regional  
Duluth, MN

Regional Monterrey  
Monterrey, Mexico

South Florida Regional  
Fort Lauderdale, FL

Utah Regional  
West Valley City, UT

**Feb 29-Mar 02**

FIT District Katy Event  
Katy, TX

FIT District Waco Event  
Waco, TX

FIM District Kettering University  
Event #1  
Flint, MI

FIM District Milford Event  
Highland, MI

NE District Granite State Event  
Salem, NH

PNW District Clackamas Academy  
Event  
Oregon City, OR

**Feb 29-Mar 03**

Hueneme Port Regional  
Port Hueneme, CA  
Silicon Valley Regional  
San Jose, CA

**Mar 01-03**

CHS District Ashland VA Event  
Ashland, VA

CHS District Blacksburg VA Event  
Blacksburg, VA

FMA District Hatboro-Horsham  
Event  
Horsham, PA

FMA District Mount Olive Event  
Flanders, NJ

FIN District Mishawaka Event  
Mishawak, IN

FIM District Battle Creek Event  
Battle Creek, MI

FIM District Berrien Springs Event  
Berrien Springs, MI

FIM District Jackson at Columbia  
Event

Brooklyn, MI  
NE District Hartford Event  
Hartford, CT

FNC District Orange County Event  
Chapel Hill, NC

PNW District Glacier Peak Event  
Snohomish, WA

**Mar 03-06**

Smoky Mountains Regional  
Knoxville, TN

**Mar 05-07**

Istanbul Regional  
Sarıyer, Türkiye

**Mar 06-09**

Arkansas Regional  
Searcy, AR  
Central Missouri Regional  
Sedalia, MO

Great Northern Regional  
Grand Forks, ND

Green Country Regional  
Tulsa, OK

Hudson Valley Regional  
Suffern, NY

**Mar 07-09**

FIT District Belton Event  
Belton, TX

FIM District Belleville Event  
Belleville, MI

FIM District Escanaba Event  
Escanaba, MI

FIM District Kettering University  
Event #2  
Flint, MI

FIM District St. Joseph Event  
St. Joseph, MI

PNW District Oregon State  
Fairgrounds Event  
Salem, OR

PCH District Anderson Event  
presented by MAGNA  
Anderson, SC

PCH District Dalton Event  
Dalton, GA

**Mar 07-10**

San Francisco Regional  
San Francisco, CA  
Ventura County Regional  
Port Hueneme, CA

**Mar 08-10**

CHS District Portsmouth VA Event  
Portsmouth, VA

FIT District Plano Event  
Plano, TX

FIM District Woodhaven Event  
Brownstown Charter Twp, MI

FMA District Allentown Event  
Allentown, NJ

FMA District Seneca Event  
Tabernacle, NJ

FIM District Lake City Event  
Lake City, MI

NE District BSU Event  
Bridgewater, MA

NE District Waterbury Event  
Waterbury, CT

FNC District UNC Pembroke Event  
Pembroke, NC

ONT District Centennial College  
Event  
Scarborough, ON

ONT District Newmarket Complex  
Event  
Newmarket, ON

PNW District Auburn Event  
Auburn, WA

Bosphorus Regional  
Sarıyer, Türkiye

**Mar 11-12**

ISR District Event #3  
Hadera, Israel

**Mar 13-14**

ISR District Event #4  
Hadera, Israel

**Mar 13-16**

Arizona Valley Regional  
Scottsdale, AZ  
Central Illinois Regional  
Peoria, IL

Finger Lakes Regional  
Rochester, NY

Heartland Regional  
Shawnee, KS

Magnolia Regional  
Laurel, MS

Regional Hermosillo  
Hermosillo, Mexico

Sacramento Regional  
Elk Grove, CA  
Tallahassee Regional  
Tallahassee, FL

**Mar 14-16**

FIT District Fort Worth Event  
Fort Worth, TX

FIT District San Antonio Event  
San Antonio, TX

FIM District LSSU Event  
Sault Ste. Marie, MI

FIM District Muskegon Event  
Muskegon, MI

FIM District Traverse City Event  
Traverse City, MI

FIM District Wayne State Event  
Detroit, MI

NE District URI Event  
Kingston, RI

PNW District SunDome Event  
Yakima, WA

**Mar 14-17**

Los Angeles Regional  
El Segundo, CA

Wisconsin Regional  
Milwaukee, WI

**Mar 15-17**

CHS District Glen Allen VA Event  
Glen Allen, VA

CHS District Severn MD Event  
Severn, MD

FMA District Montgomery Event  
Skillman, NJ

FMA District Springside Chestnut  
Hill Event  
Philadelphia, PA

FIN District Columbus Event  
Columbus, IN

FIM District Ann Arbor Event  
Ann Arbor, MI

NE District North Shore Event  
Reading, MA

NE District Pine Tree Event  
Lewiston, ME

FNC District UNC Asheville Event  
Asheville, NC

ONT District Durham College  
Event

Oshawa, ON

ONT District Georgian Event  
Barrie, ON

PNW District Bonney Lake Event  
Bonney Lake, WA

PCH District Gwinnett Event  
Lawrenceville, GA

For the latest information on these events, visit [frc-events.firstinspires.org/](http://frc-events.firstinspires.org/)

Southern Cross Regional  
South Windsor, Australia

### Mar 18-20

ONT District Humber College  
Event  
Toronto, ON

### Mar 19-21

*FIRST* Israel District  
Championship

Jerusalem, Israel  
Haliç Regional  
Sarıyer, Türkiye

### Mar 20-23

Arizona East Regional  
Tempe, AZ

Buckeye Regional

Cleveland, OH

Colorado Regional

Denver, CO

*FIRST* Long Island Regional

Hempstead, NY

Idaho Regional

Nampa, ID

Iowa Regional

Cedar Falls, IA

New York Tech Valley Regional

Albany, NY

Orlando Regional

Orlando, FL

Regional Laguna presented by  
Peñoles

Torreón, Mexico

St. Louis Regional

St. Louis, MO

### Mar 21-23

FIT District Dallas Event  
Dallas, TX

FIM District Lansing Event  
Mason, MI

FIM District Midland Event  
Midland, MI

FIM District West Michigan Event  
Allendale, MI

ONT District University of  
Waterloo Event

Waterloo, ON

PNW District Wilsonville Event  
Wilsonville, OR

PCH District Carrollton Event  
Carrollton, GA

PCH District Charleston Event  
N. Charleston, SC

### Mar 21-24

Central Valley Regional  
Fresno, CA

San Diego Regional presented by  
Qualcomm  
La Jolla, CA

### Mar 22-24

CHS District Falls Church VA  
Event presented by Department  
of Energy  
Falls Church, VA

CHS District Owings Mills MD  
Event  
Owings Mills, MD

FIT District Houston Event  
Houston, TX

FMA District Bensalem Event  
Bensalem, PA

FMA District Warren Hills Event  
Washington, NJ

FIN District Plainfield Event  
presented by Carrier  
Plainfield, IN

FIM District Livonia Event  
Livonia, MI

FIM District Troy Event #1  
Troy, MI

NE District Greater Boston Event  
Revere, MA

NE District Western NE Event  
Springfield, MA

FNC District Mecklenburg County  
Event

Charlotte, NC

FNC District Wake County Event  
Wake Forest, NC

ONT District North Bay Event  
North Bay, ON

PNW District Sammamish Event  
Bellevue, WA

Marmara Regional  
Sarıyer, Türkiye

### Mar 27-30

Las Vegas Regional  
Las Vegas, NV

Midwest Regional  
Chicago, IL

Monterey Bay Regional  
Seaside, CA

Orange County Regional  
Costa Mesa, CA

### Mar 28-30

FIT District Amarillo Event  
Amarillo, TX

FIT District Space City @  
Friendswood Event  
Friendswood, TX

FIM District Kentwood Event  
Kentwood, MI

FIM District Macomb Community  
College Event  
Sterling Heights, MI

FIM District Central Michigan  
University Event  
Mt. Pleasant, MI

FIM District Renaissance Event  
Detroit, MI

FIM District Troy Event #2  
Troy, MI

FIN District Washington Event  
presented by Toyota  
Washington, IN

NE District UNH Event  
Durham, NH

ONT District McMaster University  
Hamilton, ON

ONT District Windsor Essex Great  
Lakes Event

Windsor, ON

PCH District Albany Event  
Albany, GA

### Mar 29-31

NE District WPI Event  
Worcester, MA

### Apr 03-06

*FIRST* In Texas District  
Championship  
Houston, TX

New England *FIRST* District  
Championship  
West Springfield, MA

*FIRST* Ontario Provincial  
Championship  
Mississauga, ON

Pacific Northwest *FIRST* District  
Championship  
Portland, OR

Aerospace Valley Regional  
Lancaster, CA

Bayou Regional  
Kenner, LA

Greater Kansas City Regional  
Lee's Summit, MO

Hawaii Regional  
Honolulu, HI

Miami Valley Regional

Cincinnati, OH

Minnesota 10,000 Lakes Regional  
Minneapolis, MN

Oklahoma Regional  
Oklahoma City, OK

Rocket City Regional  
Huntsville, AL

Seven Rivers Regional  
La Crosse, WI

### Apr 04-06

*FIRST* Mid-Atlantic District  
Championship  
Bethlehem, PA

*FIRST* in Michigan State  
Championship

University Center, MI

Peachtree District Championship  
Macon, GA

### Apr 04-07

*FIRST* Chesapeake District  
Championship

Petersburg, VA

East Bay Regional

Berkeley, CA

Minnesota Granite City Regional  
St. Cloud, MN

New York City Regional

New York, NY

### Apr 05-07

*FIRST* Indiana State Championship  
Lafayette, IN

*FIRST* North Carolina District State  
Championship

Greenville, NC

### April 17-20

2024 *FIRST* Championship  
presented by BAE Systems  
Houston, TX

### Abbreviation Key

CHS – *FIRST* Chesapeake

FIM – *FIRST* in Michigan

FMA – *FIRST* Mid-Atlantic

FNC – *FIRST* North Carolina

FTA – *FIRST* in Texas

FIN – *FIRST* in Indiana

NE – New England *FIRST*

ONT – *FIRST* Ontario

PCH – Peachtree

PNW – Pacific Northwest

ISR – *FIRST* Israel



Team Number	Team School/Organization	Nickname	City	Rookie Year
Canada— Centennial College District Event				
188	EM Dynamics/DevCycle/CGI/Forge Automation/Life Sciences Ontario/Toronto District School Board&Woburn Collegiate Institute	Blizzard	Toronto	1998
854	TDSB/Hatch Ltd/Google & Martingrove Collegiate Institute	Iron Bears	Etobicoke	2002
1310	Toronto District School Board/Runnymede CI/Optimist International/Microsoft/Outlook Promotions/The Kingsway Digital Company/KPM Power&Runnymede Collegiate Institute	Runnymede Robotics	Toronto	2004
1325	Pacline Overhead Conveyors/Actemium/MHI Canada Aerospace/General Motors/AMD/Hatch/Weston Forest Products/MindShare Workspace/Sable Metal Manufacturing/Agora Manufacturing/Nye Manufacturing/Thompson Centres/IMAX/Westburne/Royal Bank of Canada&Family/Community	Inverse Paradox	Mississauga	2004
2198	L'Amoreaux C.I. Alumni/Sable Metal Fabrications/Honda Canada/Martinrea/First Robotics Canada/Vena Solutions/Canadian Physics Society&L'Amoreaux Collegiate Institute	Paradigm Shift Robotics	Toronto	2007
2852	General Motors/Ward Industrial Equipment Inc./FABRIS/Ontario Power Generation/Niagara Catholic District School Board&Denis Morris Catholic High School	DM High Voltage	St Catharines	2009
4069	Ionic Mechatronics/Hard-Line Solutions/The CCM Group of Companies/General Motors of Canada&Lo-Ellen Park Secondary School	Lo-Ellen Robotics	Sudbury	2021
5031	Toronto District School Board/3M/RBC/GM/Dr. Tom Lee / Richard Lee&Downsview secondary Conovey/THK Canada/Lakeside Process	Full Metal Mustangs	North York	2014
5032	Controls/Nye Manufacturing/Siemens Canada/Siemens Energy/Weston Forest/Gene Haas Foundation/TE Connectivity/3DS Solidworks/Sable Metal Fabrication&Meadowvale Secondary School	Falcons	Mississauga	2014
5036	Honda Canada Foundation/ACE Climatic Wind Tunnel/TDSB/Argosy Foundation&Sir Wilfrid Laurier Collegiate Institute	The Robo Devils	Scarborough	2014
5719	FIRST Robotics Canada/RBC Wealth Management PH&N Investment Counsel/Kiwanis Club of Casa Loma&David & Mary Thomson Collegiate Institute	Pink Titans	Toronto	2015
5834	Riverdale Collegiate Institute/Optimist Club of Etobicoke/Metropolitan University-DMZ/Thinking Cap/Charlie's Meat and Seafood/Home Depot&Riverdale Collegiate Institute	R3P2	Toronto	2016

Team Number	Team School/Organization	Nickname	City	Rookie Year
6135	Milwaukee Tool/The Intuitive Foundation /Ryver/Stantec/Toronto District School Board, Bloor CI&Bloor C.I.	Arctos	Toronto	2016
6140	Microsoft Corporation/RBC Wealth Management PH & N Group/Enbridge Gas Team Sponsorship Grant/Argosy Hardship Grant/TORONTO CATHOLIC DISTRICT SCHOOL BOARD - 21st Century Learning&St. Mother Teresa Catholic Academy	SMT Titans	Scarborough	2016
6141	Microsoft/RBC/Princess Auto&Senator O'Connor College School	O'Connor Robotics	North York	2016
6977	Toronto District School Board/Apotex&Emery Collegiate Institute	Cyber Squad	North York	2018
7520	FIRST Canada & Family/Community	Team MineKee	North York	2019
7558	Bayview Glen School/Bot Camp/Caution Tape Robotics/Lenovo/SEW-EURO DRIVE&BAYVIEW GLEN SCHOOL	ALT-F4	North York	2019
7603	Bill Hogarth Secondary School	Vespa Robotics	Markham	2019
7659	Pratt and Whitney/Hatch/K-Tool/Dassault Systemes/FIRST Canada&Holy Name of Mary College School	HNMCS Robotics	Mississauga	2019
7712	ACCN/FIRST/Lassonde School of Engineering and York University&African Canadian Christian Network	ACCN UMOJA	Scarborough	2019
7902	Sable Metal Fabrication Inc./The Remington Group/MPR Advisors (Planning and Appraisal)/FIRST Canada/Honda Canada Foundation/Green Infrastructure Partners Inc./Box Grove Dental Care/Monster Mobile/Student Scholars/Metal Supermarkets/Promopays/Markham Trophy Inc./Princess Auto/Orbit Robotics/Solidworks/Bild&Family/Community	Markham FireBirds	Markham	2019
8574	FIRST Robotics Canada/Humber College/Toronto District School Board/New Team Growth grant/Argosy Foundation/SEW-Eurodrive/Queen's University/St. Clair College/Intuitive Foundation/Aris Painting/Alexanian Carpet & Flooring/Sable Metal Fabrication Inc./The Open Alliance&Marc Garneau Collegiate Institute	Audeamus	North York	2021
9262	Optimist Club of Etobicoke/Toronto District School Board/Argosy Foundation/Humberside CI&Humberside Collegiate Institute	Humberside Huskies 1	Toronto	2023
9263	Aldershot High School	ALD Lions	Burlington	2023
9527	Windsor Islamic High School	WIHS Team	WINDSOR	2024
9562	Bishop Reding Secondary School	Bishop Reding	Milton	2024
9569	Milliken Mills High School	Milliken Mills Silver Knights	Markham	2024
9621	Family/Community	Payload	Whitby	2024
9659	Georges Vanier Secondary School	Vanier Vikings	North York	2024



## 2024 Centennial College District Event Schedule

### Day 0 - March 8

---

2:30pm 4:30pm Team Load In (5 Team Reps)  
4:30pm Pits Open, Inspections  
5:30pm 8:00pm Filler Line Practice Matches  
9:00pm Pits Close

### Day 1 - March 9

---

8:00am Pits Open, Inspections  
8:30am Drivers meeting  
9:15am 10:45am Practice Matches  
11:00am Opening Ceremonies  
11:30am 1:30pm Qualification Matches  
1:30pm 2:30pm Lunch  
2:30pm 7:00pm\* Qualification Matches  
8:00pm Pits Close

### Day 2 - March 10

---

8:00am Pits Open  
9:00am 9:30am Opening Ceremonies  
9:30am 12:45pm\* Qualification Matches  
1:00pm 1:30pm Alliance Selections  
1:30pm 2:30pm Lunch  
2:30pm 5:30pm Playoff Matches  
5:30pm\*\* 7:00pm Awards / Closing Ceremonies  
7:30pm Pits Close

\*Schedule subject to change. All times are estimated based on flow of rounds. See Pit Administration table for updated times.

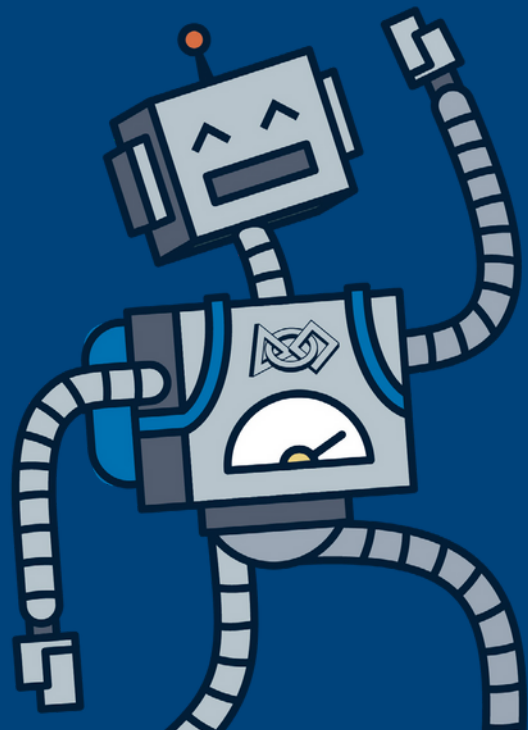
## The 2024 *FIRST*<sup>®</sup> Championship starts April 17

### *Pack your bolts, bots, and bags!*

FIRST<sup>®</sup> has put together exclusive FIRST Championship housing discounts so you and your team can have the time of your lives when you get there. When you book with FIRST, you will:

- Stay close to the venue and other teams
- Receive guaranteed low rates at FIRST-reviewed hotels
- Enjoy convenient, FIRST-only contracted amenities at most hotels including complimentary Wi-Fi, breakfast, and parking
- Gain flexibility to make booking adjustments and pay later
  - Get reservation protection and assistance before, during, and after your stay if any unexpected challenges occur

**Book your hotel reservations today!**  
[www.firstchampionship.org](http://www.firstchampionship.org)



# GET READY TO LEVEL UP

## DON'T JUST GET AN EDUCATION.

Attend a school that combines job-ready technical skills with the life skills you need to get ready for anything.

Explore our programs at [centennialcollege.ca](http://centennialcollege.ca)

CENTENNIAL  
COLLEGE



[firstroboticscanada.org/donate/](http://firstroboticscanada.org/donate/)



	<b>130,000+</b> Canada students participating (2017-2020)
	<b>1.5M+</b> mentor hours (2017-2020)
	<b>\$250,000+</b> Canada scholarships



### Become a Supporter



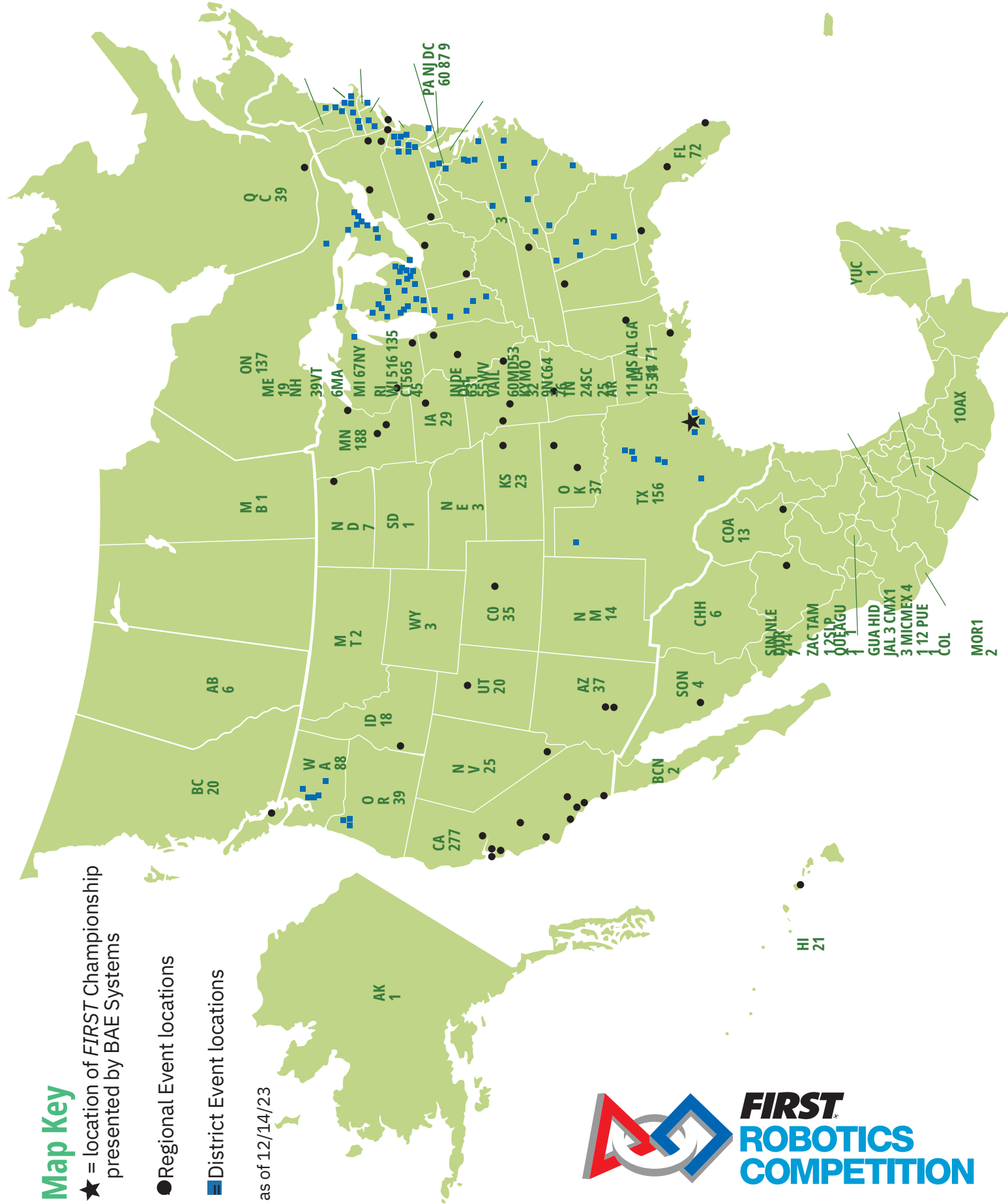
**\$250**

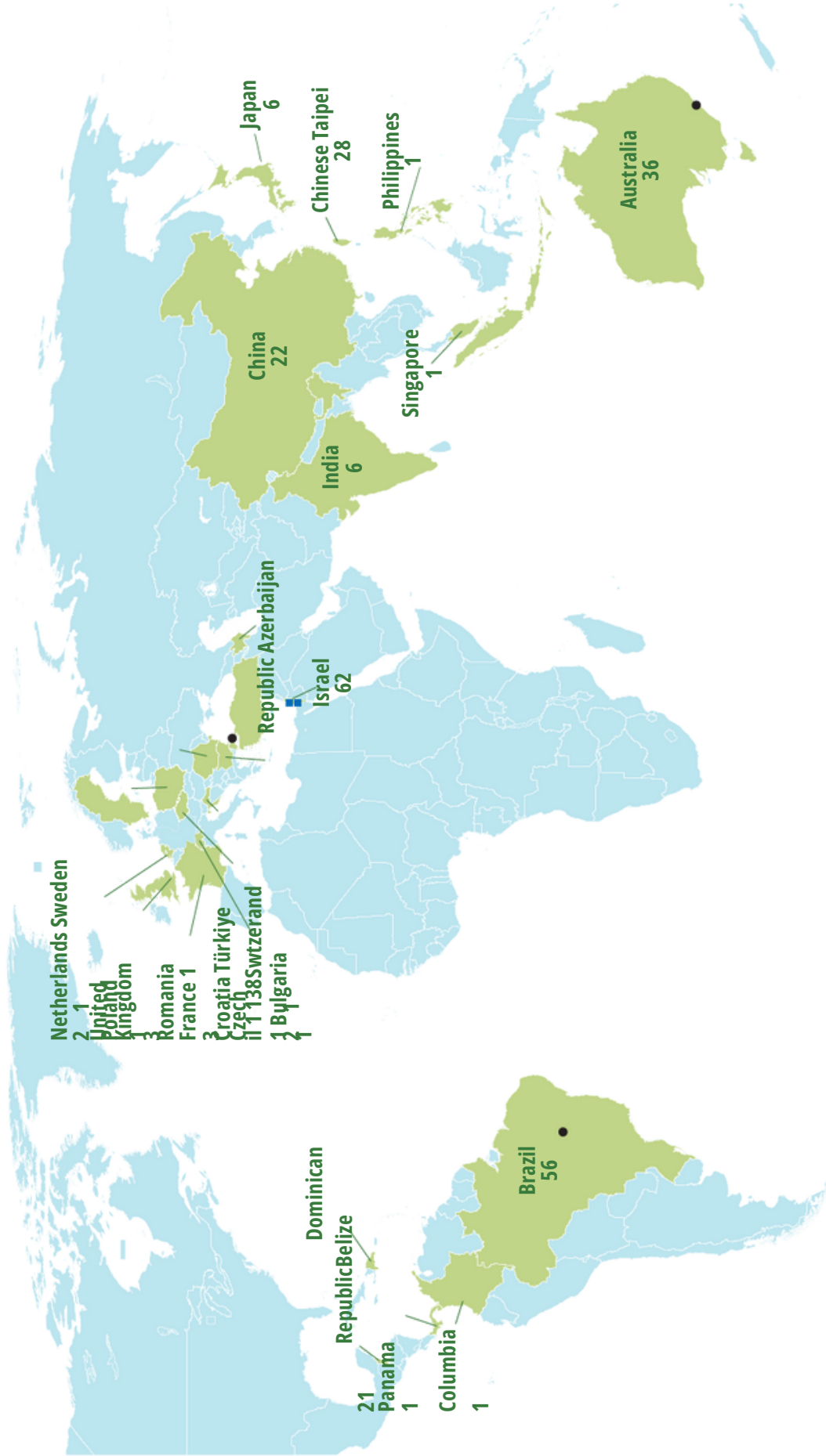
**\$500**

**\$1000**

**\$2500**









# Get Involved!

## Form a Team...

- Learn from engineering pros.
- Apply math and science concepts to design and build robots.
- Gain hands-on experience solving real-world problems.
- Learn about exciting science and technology careers.
- Make new friends.

## Be a Volunteer...

- Become a mentor.
- Organize an event or program.
- Assist at a competition.
- Make a difference in young lives.

Contact: [jaeleen.koscielski@firstroboticscanada.org](mailto:jaeleen.koscielski@firstroboticscanada.org)

## Become a Team or Regional Sponsor...

- Provide financial support, equipment, parts, facilities, internships, or other services.
- Offer scholarships.
- Encourage employees to mentor or volunteer.
- Host an event.
- Build community goodwill.
- Inspire employees.
- Help build a technical workforce.

Contact: [arti.javeri@firstroboticscanada.org](mailto:arti.javeri@firstroboticscanada.org)

## Donate!



- Help ensure thousands of students have access to unique learning experiences.
- Support the next generation of technological innovators and problem solvers.
- Scan this code with your smartphone to launch our secure online donation page on your browser.



Thank you for your generosity!

# Judges

## Led by Our Judge Advisor:

### Michael Naish

Associate Professor  
Western University

---

### Amandeep Kaur

Software Developer  
General Motors

### Anita Nuna

Freelancer

### Biraj Kapadia

Sr. Silicon Design Engineer  
Advanced Micro Devices, Inc.

### Dan Foisy

Senior Director, NLP and  
Generative AI Platforms and  
Solutions  
Royal Bank of Canada

### David Lam

Doctor  
Ancaster FHO

### Don Sarpong

Business Unit Lead of Flow  
Controls  
Lakeside Process Controls

### Doran Avivi

Engineering Manager  
Xpan Inc.

### Firth Whitwam

Product Line Architect of  
Automated Transit Solutions  
Thales Canada

### Fraser Allan

Manager, Renewables  
Facilitation and Analysis  
Ontario Ministry of Energy

### Janice Fernandes

Corporate Secretary & Head  
of Governance  
The Argus Group

### Justin Chu

Software Engineer  
Advanced Micro Devices, Inc.

### Majeed Nadar

SMTS Silicon Design Engineer  
Advanced Micro Devices, Inc.

### Mithusa Sivanathan

### Mohammad Naqvi

Treasurer  
PEO Scarborough Chapter

### Ninad Dabholkar

IT Project Manager  
CIBC

### Parastoo Baghaei

Machine Learning Specialist  
General Motors

### Priti Agarwal

Staff Talent Advisor  
Advanced Micro Devices, Inc.

### Richard McDonald

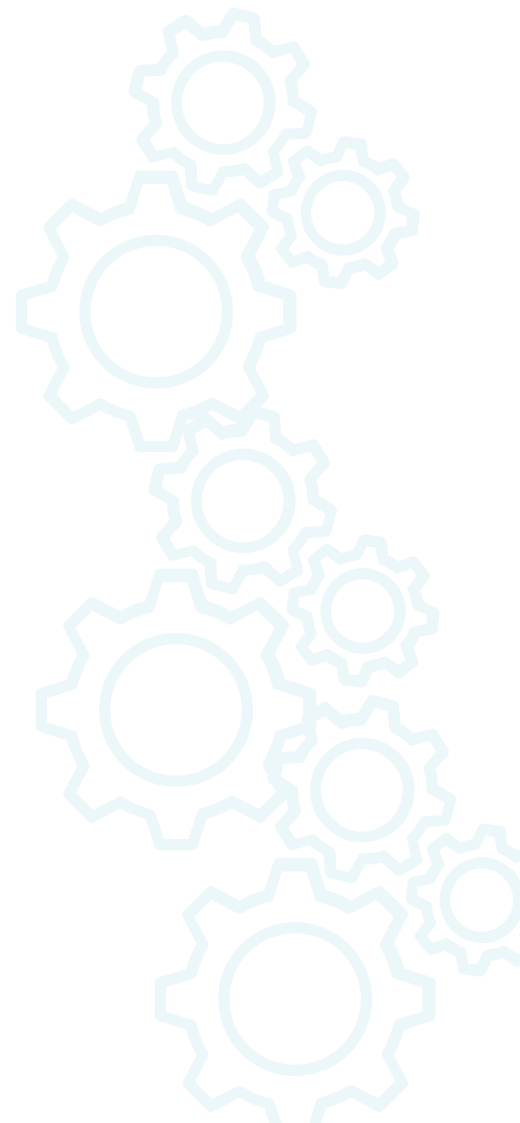
Retired Distinguished Engineer  
- IBM Canada  
Director of Space Place  
Canada

### Shawn Lin

DevOps Engineer  
TELUS Mobility

### Vishnu Priya Rajendran

Business Analyst  
CIBC





# ALUMNI



Participants and alumni of *FIRST* programs gain access to education and career discovery opportunities, connections to exclusive scholarships and employers, and a place in the *FIRST* community for life.

[firstroboticscanada.org/get-involved/alumni/](http://firstroboticscanada.org/get-involved/alumni/)



I remember reading "*FIRST* is more than robots" on the website as I registered for my robotics team. Being new to *FIRST*, I did not understand the meaning behind it. Now 7 years later, as a *FIRST* Alumni, this phrase defines my journey. For myself, *FIRST* is about community. I have made long-lasting friendships and acquired many skills that make me the leader I am today. As an alum, I'm able to witness just how far the *FIRST* community extends, and network you gain access to. There is this automatic bond when you know someone who has also gone through the *FIRST* program. My time as a *FIRST* participant helped reinforce my values and inspired me to pursue a career in Engineering at the University of Waterloo.



**MEHAK DHALI WAL**

*FIRST* Canada Youth Council Alum  
Systems Design Engineering student at the University of Waterloo



## FIRST Volunteers Inspiring the Future Since 1992

The Centennial College District Event relies on dedicated volunteers and appreciates the contribution of time from everyone who participates. From the expertise of veteran volunteers who return year after year, to the enthusiasm of first-timers, volunteers are the critical component that make our events successful. A special thank you to the members of the Centennial College District Event planning committee, who work tirelessly to plan this event each year.

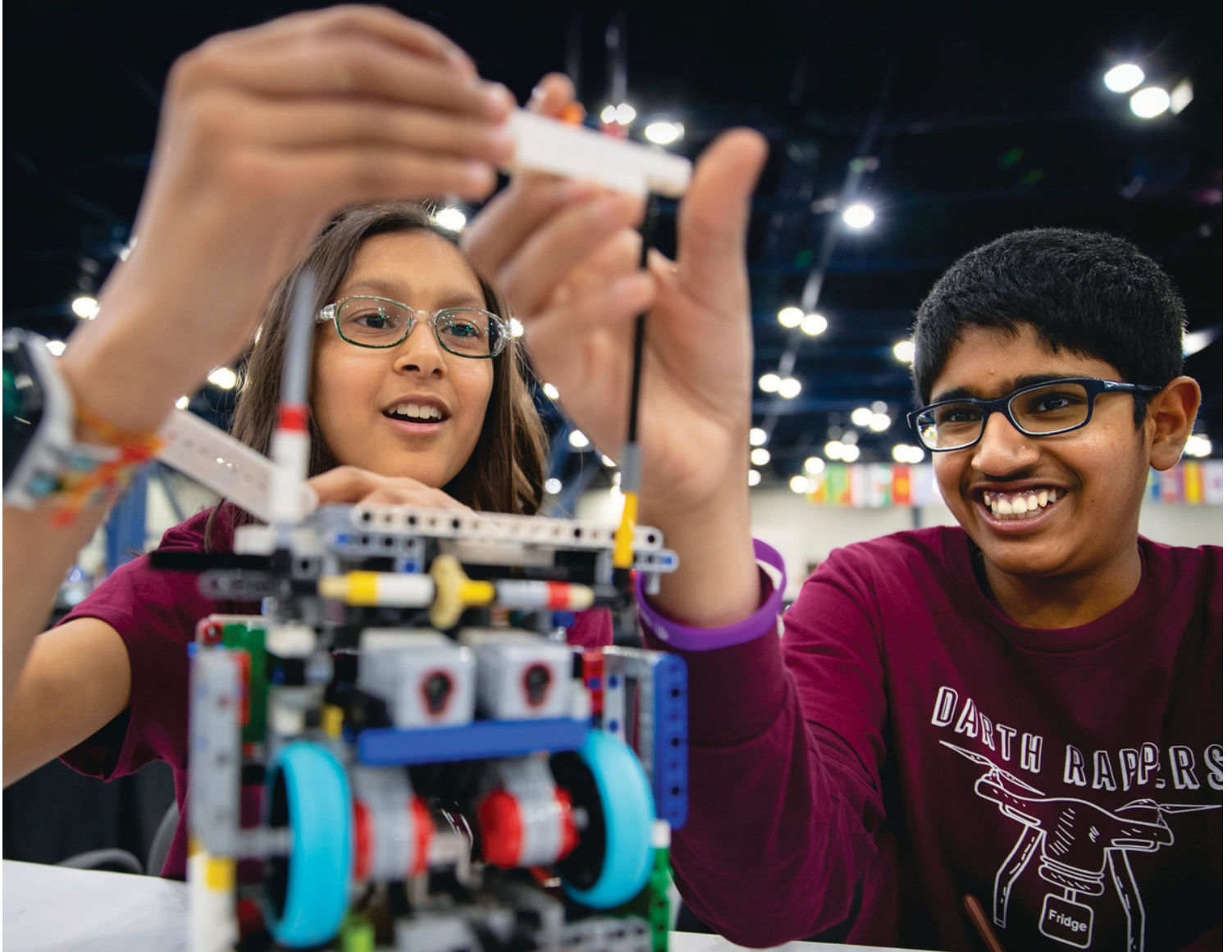






We are not using kids to  
build robots. We are using  
robots to build kids.

— Dean Kamen, Founder, FIRST®



Help FIRST® Canada provide unique, hands-on STEM learning experiences to millions of students!

[www.firstroboticscanada.org/donate](http://www.firstroboticscanada.org/donate)

*Your contribution is appreciated. Thanks for joining FIRST Canada as we create a culture that celebrates science and technology!*



# FIRST®— A Suite of Hands-On, STEM Learning Programs

FIRST® is the world's leading youth-serving nonprofit advancing STEM education. For over 30 years, students from all walks of life have developed self-confidence in STEM and valuable, real-world skills through FIRST that open pathways to a better future.

Through a suite of team-based robotics challenges and backed by a global network of mentors, coaches, volunteers, alumni, and sponsors, FIRST helps young people discover a passion for STEM and develop the skills they'll need to succeed in today's competitive workforce.

Children can start their journey with FIRST® LEGO® League and progress through FIRST® Tech Challenge and FIRST® Robotics Competition, or join any of our three programs based on age or grade level.

GRADES PREK-8 · AGES 4-16\*



## Young Innovators Use Skills and Imagination to Solve Problems as a Team

FIRST LEGO League introduces STEM to children through fun, exciting hands-on learning. Participants gain real-world problem-solving experiences through a guided, global robotics program, helping today's students and teachers build a better future together. FIRST LEGO League's three age-appropriate divisions inspire youth to experiment and grow their critical thinking, coding, and design skills through hands-on STEM learning and robotics.

\*Ages vary by country

GRADES 7-12 · AGES 12-18



## It's Way More Than Building Robots

FIRST Tech Challenge students learn to think like engineers. Teams design, build, and program robots to compete in an alliance format against other teams. Robots are built from a reusable platform, powered by Android technology, and can be coded using a variety of levels of Java-based programming. Participants and alumni have access to career discovery opportunities, networking, and the FIRST Scholarship Program.

GRADES 9-12 · AGES 14-18



## An Exciting Sport Built Around the World of STEM

FIRST Robotics Competition teams design, program, and build a robot starting with a standard kit of parts and common set of rules to play in a themed head-to-head challenge. Teams also build a brand, develop community partnerships for support, and work to promote STEM in their local community.

Participants and alumni have access to career discovery opportunities, networking, and the FIRST Scholarship Program.

At the heart of FIRST are its Core Values, which emphasize the contributions of others, friendly sportsmanship, teamwork, learning, and community involvement. These include Gracious Professionalism® (respect for others, being a good sport, and sharing what you learn) and Coopertition® (competing hard but also helping the other teams).

Learn more about FIRST and our suite of hands-on programs at [firstroboticscanada.org](http://firstroboticscanada.org)



We'd like to thank our Sponsors and Partners for their commitment to the vision of **FIRST®** and who continue to help **FIRST®** grow!

Platinum Plus



Platinum



Gold



Silver



Bronze



Corporate Sponsors

Founding Partner



Supporters

Education Partners



<https://www.firstroboticscanada.org/>

FOR INSPIRATION & RECOGNITION OF SCIENCE & TECHNOLOGY



FIRST®, the FIRST® logo, FIRST® Robotics Competition, FIRST® Tech Challenge, Coopertition®, and Gracious Professionalism® are trademarks of For Inspiration and Recognition of Science and Technology (FIRST). LEGO® and MINDSTORMS® are registered trademarks of LEGO Group. FIRST® LEGO® League and FIRST® LEGO® League Jr. are jointly held trademarks of FIRST and the LEGO Group. Other marks used here are the trademarks of their respective owners. ©2020-2022 FIRST. All rights reserved.