

**HUMBER
FIRST[®]
ROBOTICS
COMPETITION
MARCH 19-20, 2024**

Hosted by:



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 CRESCENDOSM presented by Haas, part of the 2023-2024 cross-program season, *FIRST*® IN SHOWSM 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.**

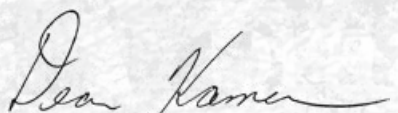
To our teams competing this year, congratulations. Your creative spirit, acts of *Gracious Professionalism*®, and collective passion for making a positive difference in the world have touched the hearts of your peers, mentors, local communities, and all of us here at *FIRST*.

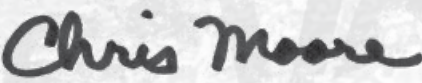
And to the mentors, parents, volunteers, partners, sponsors, donors, alumni, and many supporters who invest in *FIRST* participants in countless ways: thank you. You empower students to explore their full potential, forge new paths, and find ways to make an impact, do good, and inspire others to do the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

Congratulations to all the participants in the *FIRST*[®] Robotics Canada – Ontario District Competition. I hope you are proud of your accomplishments and perseverance as the skills you have gained through this process will serve you well in the future.

You worked together to solve challenges and prepare for this competition. It is through teamwork and cooperation that you will find success in post-secondary education, your careers and everyday life.

You have been helped along the way by teachers, mentors, family and friends and I want to recognize their support and contributions to your success.

Your passion and dedication to tackling the energy challenges facing our world is inspiring. This year's arts-inspired robotics season of competitions underscores the diverse set of skills that set you up for success. Your unique perspective and ideas can make a difference in our world.

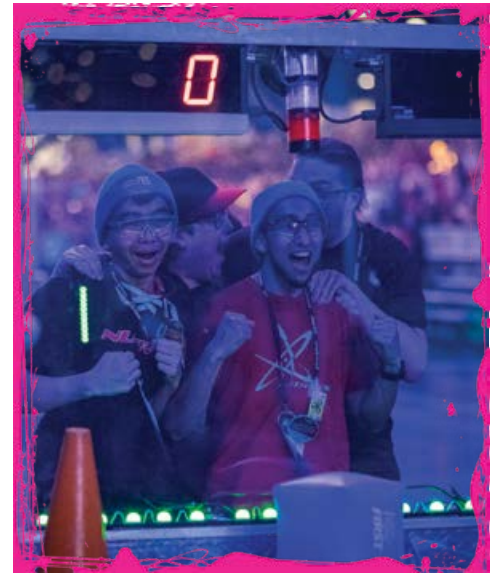
One of Humber's goals is to prepare graduates to be global citizens with the knowledge and skills to lead and innovate. With our Centres of Innovation Network, world-class labs, work-integrated learning opportunities and experiences, and expert faculty members and technologists, Humber is a leader in finding solutions to the challenges of today and tomorrow. I hope that you will consider Humber as you think about your own post-secondary education.

We look forward to seeing how you will continue to shape the future.

Good luck in this competition and I encourage you to represent yourselves and teammates with pride and enthusiasm.

Sincerely,

Dr. Ann Marie Vaughan
President and CEO
Humber College





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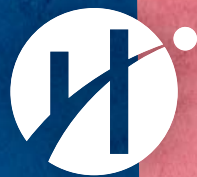
SCAN TO LEARN MORE
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CRESCENDOSM

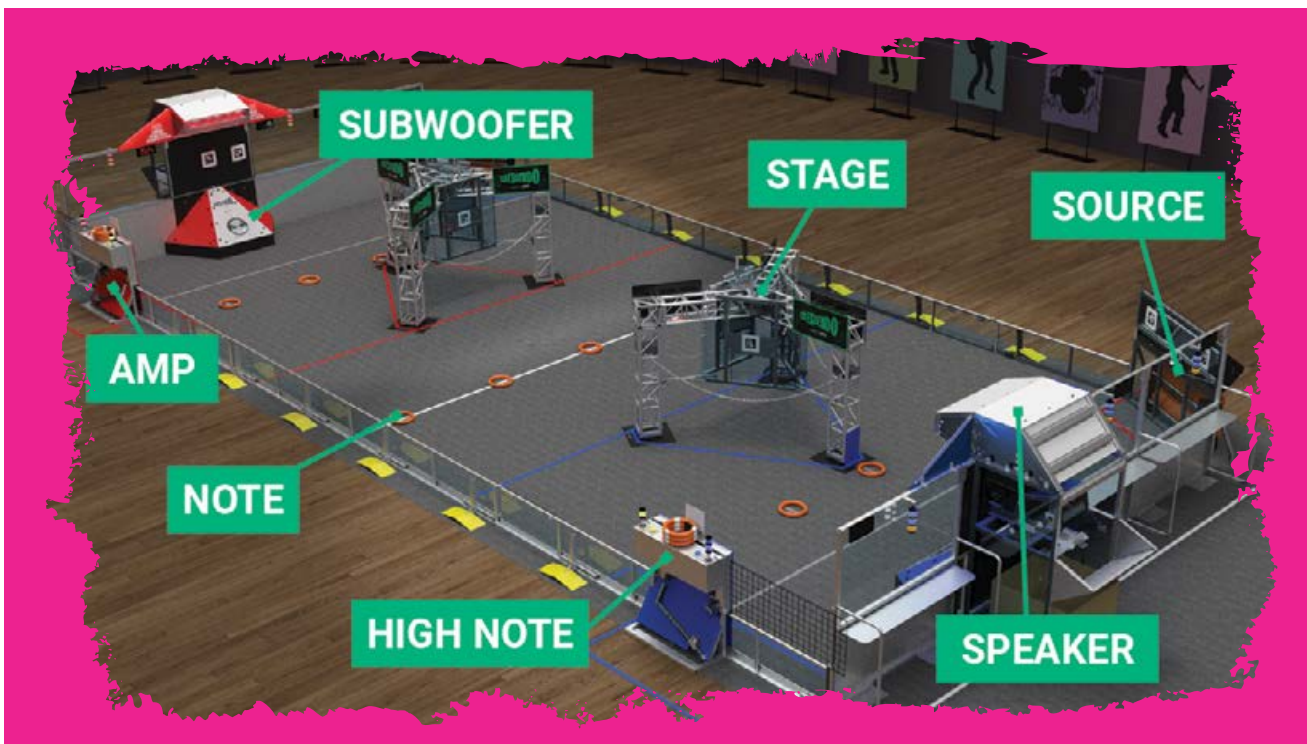
PRESENTED BY  Gene Haas Foundation

Gameplay

Inspired by the art and experiences that entertain us and move us, CRESCENDOSM 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.

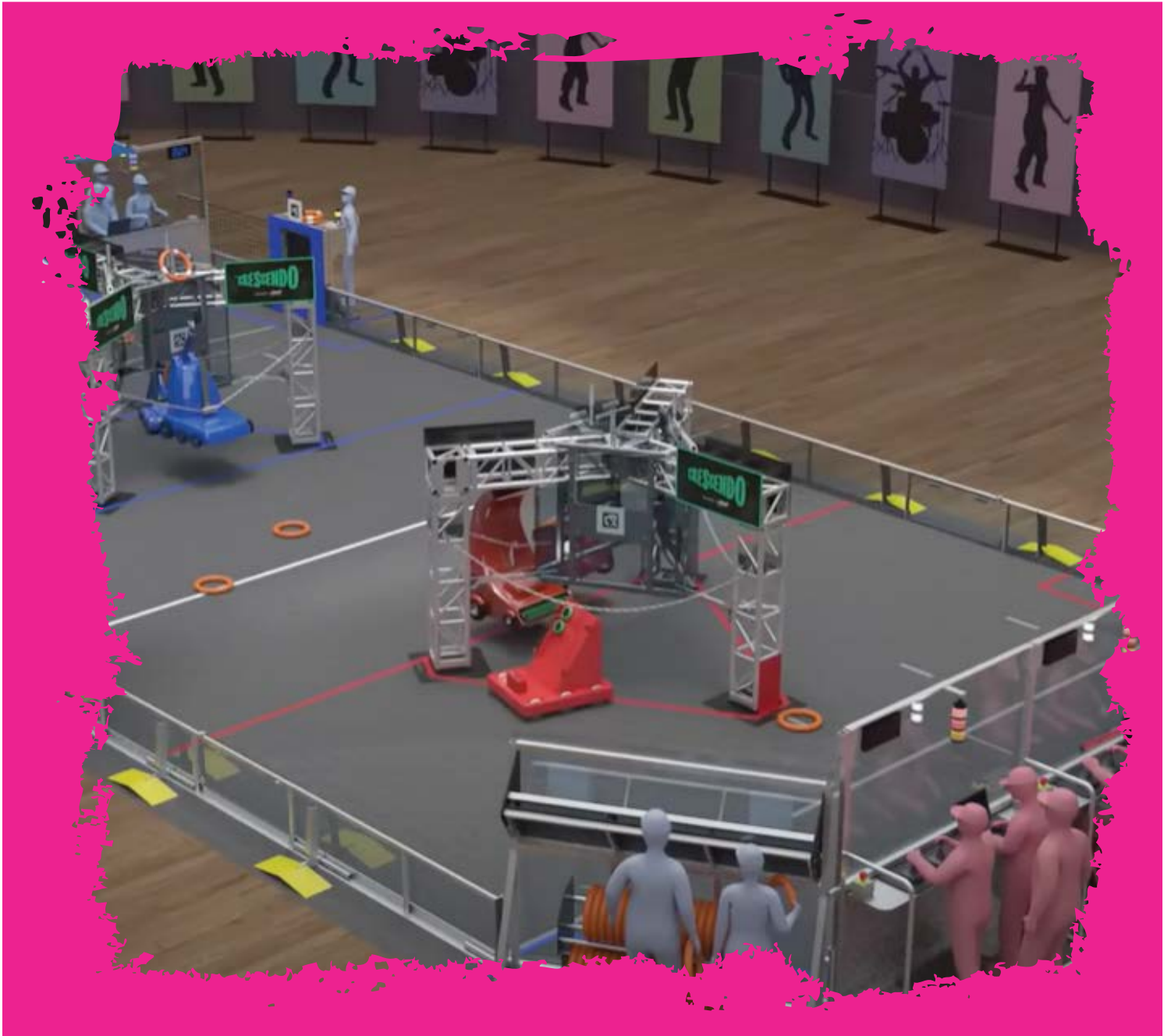
- Each match begins with a 15-second autonomous period, during which robots operate only by pre-programmed instructions to move from their starting positions and score game pieces, called notes, into their two goals: the speaker and the amp. They also use this time to collect additional notes from around 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.

CRESCENDOSM

PRESENTED BY  **HAAS**
Gene Haas Foundation



STATS (AS OF 01/04/2024)

- 33rd Season Game: CRESCENDOSM 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

FIRST IN SHOWSM

PRESENTED BY 

For the latest information on these events, visit 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/

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
Torreon, 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
854	TDSB/Hatch Ltd/Google & Martingrove Collegiate Institute	Iron Bears	Etobicoke	2002
1246	Rotary Club of Agincourt/Racing Forensics/Vena Solutions/Toronto District School Board & Agincourt Collegiate Institute	Agincourt Skunkworks	Scarborough	2004
2198	L'Amoreaux C.I. Alumni/Martinrea/Honda Canada/First Robotics Canada/St. Paul's L'Amoreaux Anglican Church & L'Amoreaux Collegiate Institute	Paradigm Shift Robotics	Toronto	2007
2200	Arcelor Mittal Dofasco Hamilton/Almex Group/Shape Process Automation/Wera Tools/Pratt and Whitney Canada/Burlington Auto Works/Custom Paint & Silk Screen Inc./Studica Canada/Full Fusion Welding/Pacsys /Advent Tech /Irving Consumer & M.M. Robinson High School	MMRambotics	Burlington	2007
3161	Halton Catholic District School Board/Professional Engineers Ontario Oakville Chapter/Creative Visual Solutions & Holy Trinity Catholic Secondary	Tronic Titans	Oakville	2010
4308	Weston Forest/Sable Metal/Mississauga Central Lions Club/Youth Culture Inc/Jukebox/Bramwood Forest Inc/University of Toronto Mississauga/Sam McDadi Real Estate & The Woodlands School	ABSOLUTE ROBOTICS	Mississauga	2012
4920	Unique Tool and Gage/Centerline (Windsor) Limited/Brave Control Sytems/Valiant TMS/Gauge Rite/Greater Essex county District School Board SHSM Program/Tregaskis/St. Clair College/University of Windsor & Belle River District High School	Belle River Boltheads	Belle River	2014
4946	The Knightsgrange Foundation/Husky Injection Molding Systems Ltd./Chouinard Bros. Roofing/Canadian Tire/Bolton Rotary Club/Canada Strong Masks/Rotogran International/Embark/Pizzaville Inc./Hatch Ltd./Palgrave Rotary Club/Ben Machine Products/Northern Transformer/Humberview Secondary School & Humberview Secondary	The Alpha Dogs	Bolton	2014
5032	Meadowvale Secondary IBT Program/Conovey/THK Canada/Lakeside Process Controls/Sable Metal Fabrication/Nye Manufacturing/Siemens Canada/Siemens Energy/Weston Forest/Advanced Motion and Controls/Xtreme Steel and Profiles/Gene Haas Foundation/TE Connectivity/3DS Solidworks & Meadowvale Secondary School	Falcons	Mississauga	2014
5719	FIRST Robotics Canada/Samco Machinery/RSG International/RBC Wealth Management PH&N Investment Counsel/Kiwanis Club of Casa Loma & David & Mary Thomson Collegiate Institute	Pink Titans	Scarborough	2015
5912	N.R.C.E.A./Admiral Welding/Public Metal Supply- Welland/Solidworks/Sticker-it Signs and Graphics/Verdonk & Sons Construction & Heritage Christian School	Copper Hawks	Jordan	2016
6140	RBC Wealth Management PH & N Group/Honda Canada Foundation/General Motors Canada/Argosy Foundation/FIRST Sustainability Grant/St. Mother Teresa Catholic Academy & St. Mother Teresa Catholic Academy	The 'Tita'BOTS	Scarborough	2016
6141	Microsoft/RBC/Princess Auto & Senator O'Connor College School	O'Connor Robotics	North York	2016

Team Number	Team School/Organization	Nickname	City	Rookie Year
6397	Youth Culture/RBC Wealth Management PH&N Investment Counsel & St. Oscar Romero C.S.S.	Romero Robotics	Toronto	2017
6632	Maintenance and Construction Skilled Trades Council/Canadian Tire Corporation/Toronto District School Board & Northview Heights Secondary School	Northview Robotics	Toronto	2017
6866	Sable Metal Fabrication & Family/Community	Markham Space Invaders	Markham	2018
6975	Neil McNeil High School	Neil McNeil Brotherhood Bots	Scarborough	2018
6977	Toronto District School Board/Apotex & Emery Collegiate Institute	Cyber Squad	North York	2018
7058	Thames Valley District School Board/Nothorn Forge & Thames Valley District Public Board	StrathDroids	Strathroy	2018
7136	Urban Digital Solutions/Mera Window Fashions/Kiwanis Club of Casa Loma/Argosy Foundation/Toronto District School Board/Waterloo Electro-Plating & Thistleton Collegiate Institute	Twisted Frames	Etobicoke	2018
7475	The Thames Valley District School Board/SAF-Holland/Custom Quality Manufacturing/General Motors Canada/Kyjo Steel/Timberland Equipment/HYDMECH/Stem Camp Foundation/Susan Awde/Unlimited Metals/Precision Maintenance and Repair/Canada Stampings Ltd./Baird Machines/Superior Electric Motors Inc./Best Contractors/Bowman Precision Tooling/Adams Building Supply/Fastenal & College Avenue Secondary School	WIRED	Woodstock	2019
7520	FIRST Canada & Family/Community	Team MineKee	North York	2019
7558	Bayview Glen School/Bot Camp/Caution Tape Robotics/Lenovo/SEW-EURO DRIVE/Planning Intelligence Group/InnovatED & Bayview Glen School	ALT-F4	North York	2019
7603	Bill Hogarth Secondary School	VESPA ROBOTICS	Markham	2019
8572	Tech Inheritors of Al-Khwarizmi	Tech Inheritors of Al Khwarizmi	Pickering Main	2021
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	Toronto	2023
9575	Argosy Foundation/FIRST Canada/Silverthorn Student Council/Evolve ETFs & Silverthorn Collegiate Institute	Silver Robotics	Toronto	2024
9785	CSAA & Family/Community	Alectrona	Aurora	2024

Judges

Anita Nuna

Jean-Francois Michaud

Bruce Melrose

Clarisse Estebar

David Brodski

Farah Lollmahomed

Geoffrey Lo

Glen Konopaskie

Jason Ho Yan Chan

K. Hwei Shien Chang

Keith Christmas

Spero (Peter) Giamou

Wintta Ghebreiyesus

Debashree Sarkar

John Shaw

Judge Advisor

John Smith

Judge Advisor Assistant

Violet Wilson

The 2024 *FIRST*® Championship starts April 17

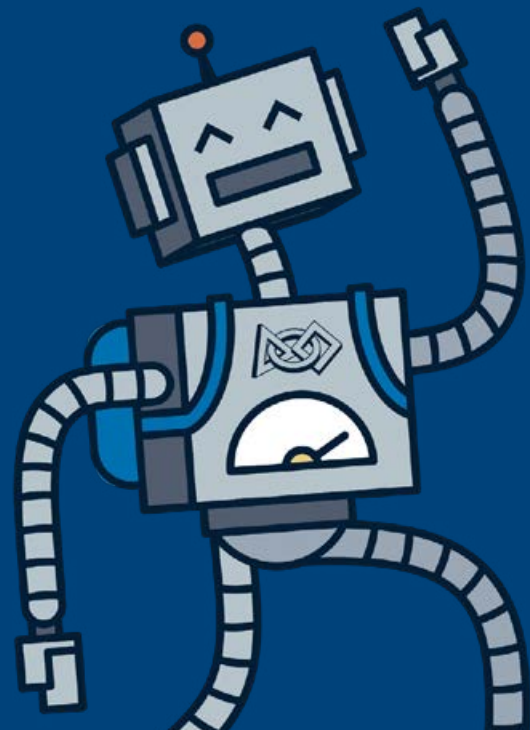
Pack your bolts, bots, and bags!

FIRST® 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!

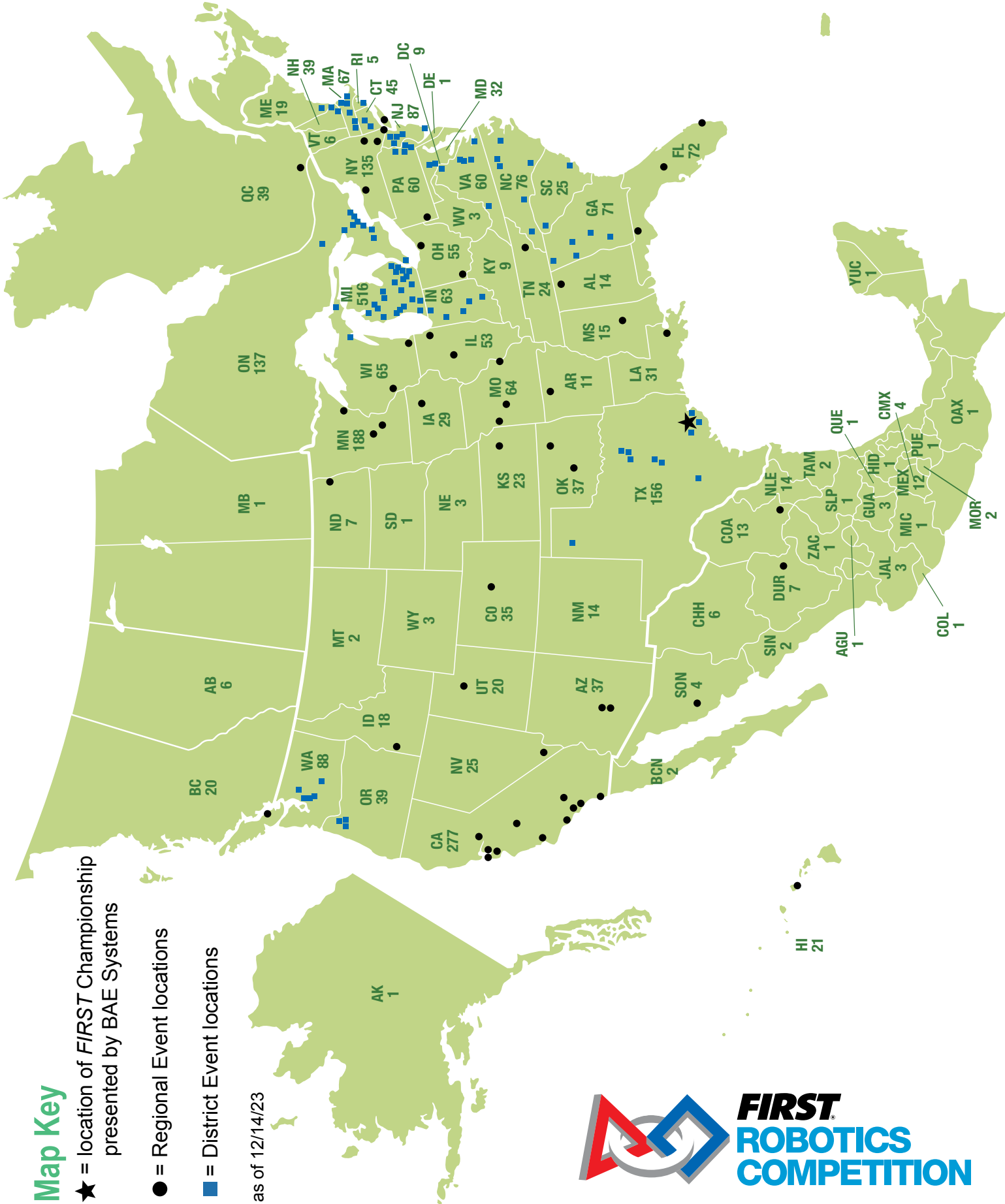
www.firstchampionship.org

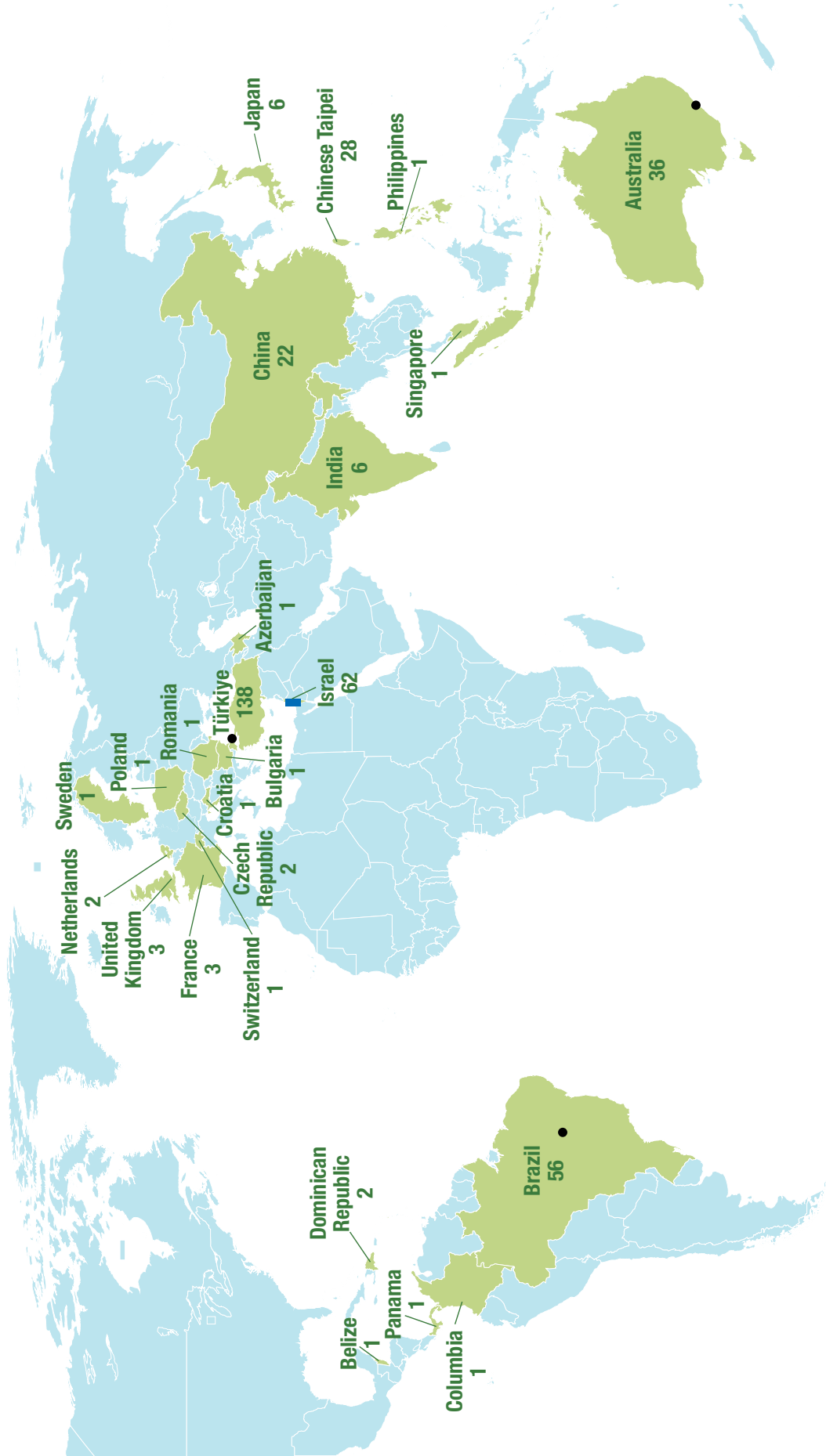


2024 Ontario Humber College Schedule

START	END	EVENT
Monday, March 18, 2024		
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
Tuesday, March 19, 2024		
8:00am		Pits Open, Inspections
8:30am		Driver 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
Wednesday, March 20, 2024		
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.





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

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

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!

Thank You



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**WE ARE
FUTURE FOCUSED**



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/



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 DHALIWAL

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

FIRST Volunteers Inspiring the Future Since 1992

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FIRST® Alliances

FIRST® shares a fundamental vision with professional organizations, national non-profits, college/university alumni groups and others committed to sustaining key programs that 'ignite young minds'. These national relationships help increase the visibility of FIRST programs and provide valuable resources from state/local chapters. FIRST is pleased to acknowledge the current Alliances who play a key role in our success.

Alpha Omega Epsilon

International Engineering/Technical Science Sorority
www.alphaomegaepsilon.org

Automation Federation / International Society for Automation (ISA)

www.automationfederation.org · www.isa.org

Boys and Girls Clubs of America

www.bgca.org

Girl Scouts of the USA

www.girlscouts.org

National 4-H Council

www.4-H.org

National Center for Women & Information Technology (NCWIT)

www.ncwit.org

National Society of Black Engineers (NSBE)

<https://www.nsbe.org>

Sigma Phi Delta

The Premier International Fraternity of Engineers <https://sigmaphidelta.org>

Society for Information Management (SIM) Foundation

<https://foundation.simnet.org>

Society of Hispanic Professional Engineers (SHPE) Foundation

<https://shpe.org>

Society of Women Engineers

www.swe.org

Triangle Fraternity

www.triangle.org

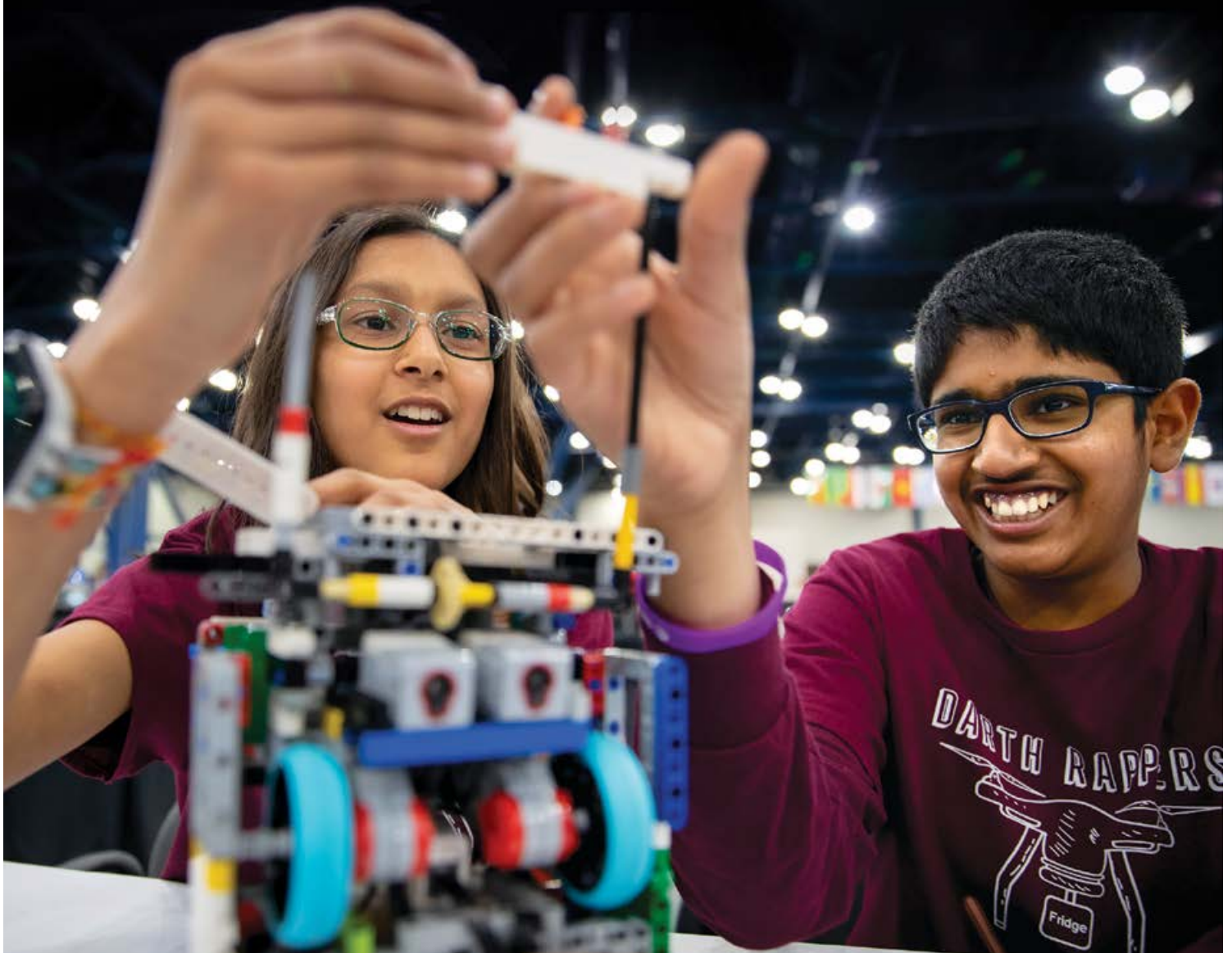
FIRST is always seeking collaborative relationships with organizations that promote career opportunities in science, technology, engineering and math (STEM) and are looking for significant mentor, coach, and volunteer opportunities for their members. For more information, contact: alliances@firstinspires.org





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

— Dean Kamen, Founder, FIRST®



Help FIRST® provide unique, hands-on STEM learning experiences to millions of students!
www.firstinspires.org/donate



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

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AndyMark
Autodesk
Belden
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NI
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REV Robotics
Rockwell Automation
Vivid Hosting
Vulcan
Worcester Polytechnic Institute (WPI)

Diamond

DigiKey
DriveWorks LTD
Fluke
Novelis
WestCoast Products & Design LLC

Gold

Altium
Automation Direct
DevCycle
MK Battery
Snap Action, Inc.

Silver

Anderson Power Products
Armabot
Clippard Instrument Laboratory
Digital.ai
Festo
Hack Club Bank
LOCTITE
Mastercam
Mathworks
MaxBotix Inc.
Parker Hannifin, Fluid Systems Connectors Division
Plummer Industries
RoboPromo
Ruland Manufacturing
Siemens Digital Industries Software
Stratasys
Studica Limited
Tableau Software
TE Connectivity
The Thrifty Bot
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JK Productions
Johnson Electric
monday.com
Next Gen Robots LLC
OneIPM
OptiFuse
Protopasta, Filament by Protoplant Inc
SolidProfessor
Southwest
Triangle Manufacturing Company
Wolfram Research

Contributor

ECIA - Electronic Components Industry Assn.
GreenGate3D
HPE Automation
OnScale
ScreenSteps



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*



**FIRST
LEGO
LEAGUE**

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



**FIRST
TECH
CHALLENGE**

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



**FIRST
ROBOTICS
COMPETITION**

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

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

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Supporters

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

FOR INSPIRATION & RECOGNITION OF SCIENCE & TECHNOLOGY



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