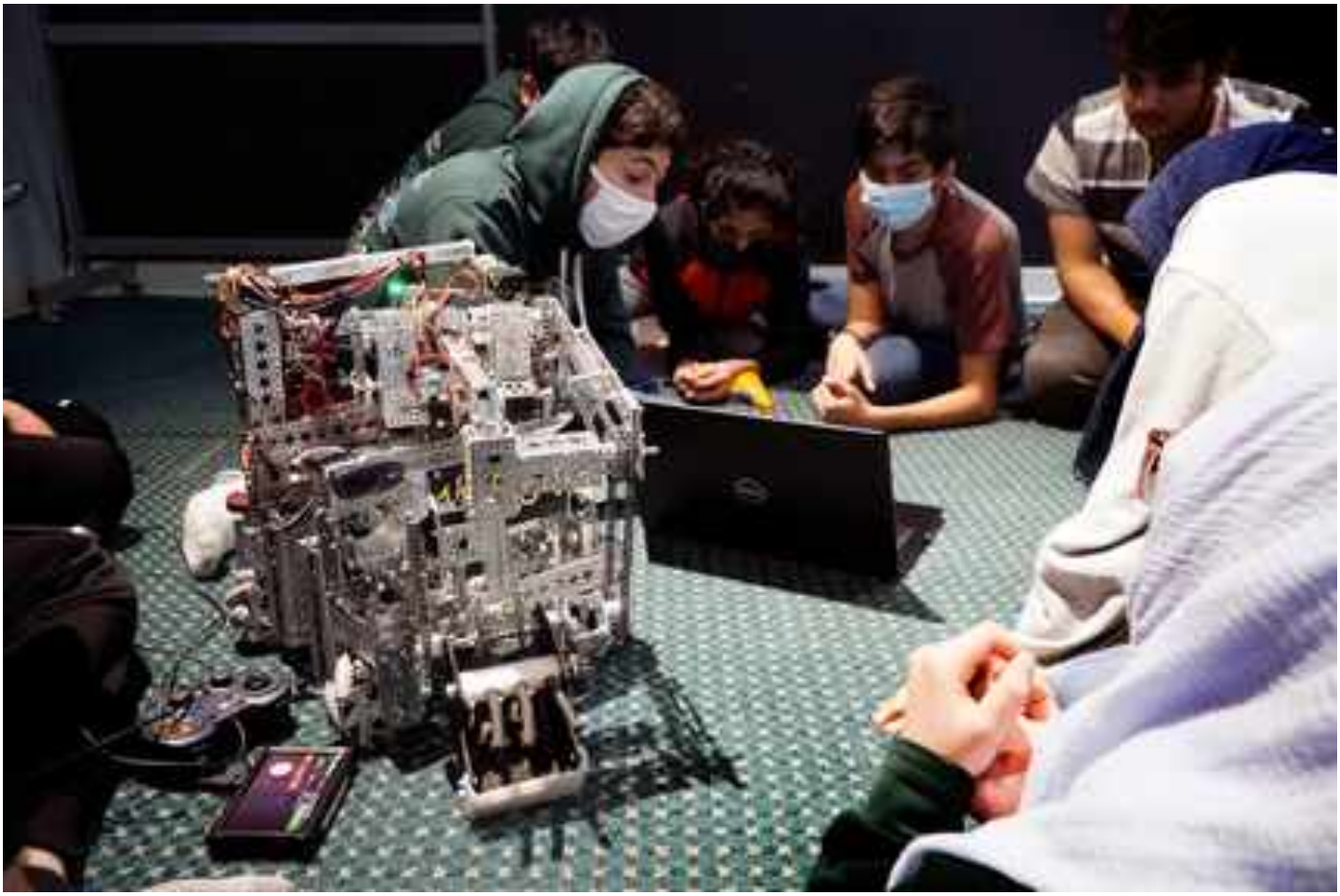
The tech whisperer: Scientist has formed four robotics teams for North Texas youths

Student-led teams create connections between Muslims and non-Muslims.



Marvels of MAS team member Hamza Ebeida, 15, explains robotic controls to Marvels of Irving team members during a meeting at the Islamic Center of Dallas in Richardson.(Lawrence Jenkins / Special Contributor)

Mohamed Ebeida is looking to inspire the next generation of innovators to change the world, one robotics team at a time.

Ebeida, a research scientist at Sandia National Laboratories in New Mexico,

has brought his vision to North Texas. He launched the nonprofit Itkan Institute of Technology in Dallas, aiming to spread access to the STEM topics of science, technology, engineering and math within the Muslim community and beyond.

Since last July, Ebeida has formed four local student-led robotics teams and counting, including the area's first Muslim community robotics team, Marvels of MAS. The team practices at the Islamic Center of MAS-Dallas, home of the Muslim American Society's Dallas chapter.

The competitive goal is to build a robot that's programmed to compete in a sequence of games and complete tasks in under three minutes. The overall mission is much bigger.

"The whole point of the Marvels is that you are the superheroes of your community," said Ebeida, who holds a Ph.D. in mechanical and aeronautical engineering. "We want our movement to spread and impact as many young people as we can for the greater good of this country."

Mohamed Ebeida (center) speaks to the Marvels of MAS and Marvels of Irving robotics teams during a meeting at the Islamic Center of Dallas in Richardson. The teams are made up of middle school and high school students from all over North Texas.(Lawrence Jenkins / Special Contributor)

Most of the kids who joined the teams Ebeida coaches didn't know much about robotics, engineering or programming. In just a few months, thanks to the mentorship of Ebeida and other adult coaches, the students have immersed themselves in robot design, 3-D modeling, programming with artificial intelligence and marketing. They also have tapped into the knowledge of industry professionals to learn and troubleshoot.

Along the way, the team has become a family.

These days, Ebeida said, he nearly has to push kids out the door to go home after sessions that can last up to five hours.

"Now they are like a little startup company inside the Islamic Center," Ebeida said. "If we can do it here, we can do it in schools and other underserved communities. Our nation really needs efforts like these. Just imagine if every

kid learned this at age 12."

The Marvels of MAS team, made up of 25 students from area schools in grades 7 to 12, recently placed fourth in the regional FIRST Tech Challenge, a robotics competition for middle school and high school students.

Marvels of MAS robotics team members Yusuf Hussain, 13, and Hazem Omar, 14, work on a robotic animation during a meeting at the Islamic Center of Dallas in Richardson.(Lawrence Jenkins / Special Contributor)

It's been inspiring to watch, said Lon Cherryholmes, who organizes the North Texas area's FIRST Tech Challenge competitions. He also teaches physics at Dallas' George Bannerman Dealey International Academy and coaches three robotics teams.

"When I visited these kids in September, they were shy," Cherryholmes said. "They aren't shy anymore, and they are breaking all the stereotypes. Muslim

stereotypes, gender stereotypes — it is all broken in this room."

Outreach is a natural extension of Ebeida's efforts and one of the requirements to participate in FIRST Tech Challenge, a global robotics community focused on increasing accessibility for low-income and underrepresented students. The MAS team has shared its STEM-inspired work with other Muslim students through dozens of gatherings at local community centers and schools and virtual presentations with students as far away as Syria.

"Our goal is beyond robotics — robotics is just a way to get there," said 16-year-old Eisha Alam, a team captain and 10th-grader at Brighter Horizons Academy in Garland. "Our goal is to spread the enjoyment and excitement of STEM and modern technology. We want youth who don't have much access to technology to have the potential to grow up and make a real impact."

Holding practices at the mosque is akin to the tradition of mosques also serving as an informal place for education, one of multiple goals Ebeida has for the program. Among them: Promote inclusion and shine a positive light on Islam by hosting events and creating connections between Muslims and non-Muslims.

"A lot of people hear inaccurate information about the Muslim community," Ebeida said. "When they visit our Islamic centers and see our hospitality and how we care and are supporting the kids and pushing all kids — not just ours — to collaborate with each other, I think it brings us all together."

For Ebeida's son, 15-year-old Hamza Ebeida, being part of the MAS robotics team has shaped his desire to pursue a career in computer science.

"I've found my passion," said the younger Ebeida, a sophomore at Allen High School, who deftly directs the team's robots to handle the competition tasks.

Parents are a critical cog in Mohamed Ebeida's effort to spread the robotics movement in the Muslim community. The program is free, but kids must apply, and parents are required to attend 40 percent of the sessions.

Amber Sheikh's 14-year-old son, Noah, an eighth-grader at Frisco ISD's Fowler Middle School in Plano, is a member of the Marvels of GEM robotics program. Ebeida, she says, challenges the kids to work together to solve problems, develop technical skills and brainstorm innovative ideas. (GEM stands for Guidance, Education and Mentorship.)

Roofaida Hanoun, 16, speaks to robotics team members about the process of building a robot and competing. (Lawrence Jenkins / Special Contributor)

"The obvious benefits of the program are scholarships and college acceptances, but what excites me more is seeing the next generation of

youth as thinkers, leaders and change-makers," said Sheikh, who also co-founded the recently opened GEM Multicultural Center with her husband, Farouk Sheikh.

Robotics competition is a game with a purpose, and a fun way to teach kids from all backgrounds to learn to work together, said Ebeida, who is fielding "requests from all over" to expand his program.

His goal is to have robotics teams in mosques "all over the country."

Details

To learn more and donate, visit Itkan Institute of Technology at itkantech.org. For more on FIRST Tech Challenge robotics teams and events across Texas, visit firstintexas.org.

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