Farmington Press 5-25-11

Kishan Patel, a Harrison High School senior and member of the school's robotics team, demonstrates the team's autonomous robot May 18 with team leader Steve Dail, left, and engineering coach Barry Brouillette. For more about the Robohawks, visit www.candgnews.com and click on Featured Videos.

Photos by Patricia O'Blenes

HARRISON'S ROBOHAWKS WIN WITH ASTONISHING SPEED

BY DAVID WALLACE
C & G Staff Writer

FARMINGTON HILLS — After a lot of hard work, late nights and IBC Root Beer, the Harrison High School Robohawks built a robot that could complete four tasks in five seconds, placing them first among 26 teams at World Robofest May 7 at Lawrence Technological University.

See ROBOTICS on page 6A

Members of the Robohawks Senior Exhibition Competition team Evan Smith, Josh Wheeler and Hyeri Joo demonstrate their robotic butterfly.

Robotics

from page 1A

World Robofest challenges high school robotics teams to design their own robots to complete a task. This year's challenge, Block the Oil Spill, featured three small PVC pipes arranged vertically along the sides of a table. The robots needed to put a Styrofoam cup over each pipe to cap it. The robots then needed to move another Styrofoam cup on the table representing a rock blocking one of the pipe structures.

A third task required the robots to retrieve a "broken" pipe laid on the table and bring it to the robot's home base at the end of the table. The last task required that the robots measure the length of a pipe and display it on a screen at their home base.

The robots in the competition were autonomous, meaning the students programmed the instructions and the robots carried out the tasks without remote controls.

"The task is doable by a relatively simple robot, but if you want to be really fast, it takes a pretty complex robot. So there's always going to be multiple teams that could do everything that had to be done, but to do it and beat all the other teams, that's the hard part," said Barry Brouillette, the team's engineering coach and husband of Board of Education Trustee Priscilla Brouillette.

In the months leading up to World Robofest, the Robohawks revised their design.

"We had three different robots. We rebuilt it three times," senior Daniel Carlson said.

At the regional competition to determine who would qualify for World Robofest, the Robohawks finished second, capping the pipes, retrieving the broken one, moving the rock and measuring the pipe in 30 seconds. The team ahead of them finished in 15 seconds.

"Every round that we went through, the robot kind of took on its own life, based on the other robots that we saw and the problems that we encountered when we were at that specific round," senior Jacob Minkus said.

Carlson said the team planned from the beginning to build a giant, nearly table-wide robot to accomplish all of the tasks in one motion, rather than have a smaller robot do the tasks one at a time.

Originally, their robot had arms that slid out over the pipes and dropped the cups to cap the pipes, but they changed it to arms that fold out.

"It was really heavy and it was stressing the motors, so that's why we changed that, and it ended up really helping us," Carlson said.

"Every change we made was either to make it lighter or faster, and usually both," Minkus said.

The team smartly opted for an economy of movement when possible. To remove the Styrofoam cup "rock," the team jury-rigged a fan to the top of the robot. Instead of driving the length of the table to push away the rock, the robot turned on its fan and blew the cup off the table.

To measure the pipe length, the team used a light sensor.

"It's the same thing that's in toilets that auto-flush," Carlson said.

They calculated the length the robot traveled while the light sensor activated. However, because the pipe length they had to measure was divided into two parts, labeled A and B, and the team knew the ratio of the two parts in regards to the total length, they figured they only had to measure the first part of the pipe.

"The kids figured that they didn't have to go all the way down to the end. All they had to do was measure A and use some algebra to calculate how long the whole thing was," Brouillette said. "So that saved several seconds."

The funny thing is that leading up to the five-second championship run, things didn't look so good at Lawrence Tech.

"Every practice round we did, it didn't work," Minkus said. The robot would miss dropping a cup, for example. And while the robot worked in tests performed in Brouillette's basement, it had never achieved so fast a speed.

"So the fact that the ultimate best run we did was the one that counted is unbelievable," Minkus said.

"Honestly, it was kind of like disbelief. It honestly didn't set in until like a good 10, 15 minutes later. We had our robot back; we're eating lunch; and we're like, 'Honestly, we might have just won that with 5 seconds,'" team captain and senior Balaji Pandian said.

Pandian said Brouillette guessed early on that professional engineers with a month to work on a robot could complete the tasks in 15 seconds.

"And it's kind of funny, because we just got a five," Pandian said.

Brouillette and team leader Steve Dail, who teaches physics at Harrison, said the project offers some important benefits to the students.

"I think just the whole sense of what the engineering process really is. You're given a problem, and you need to solve the problem. I always tell the kids, in the real world, when you're doing engineering, you're in a world of constraints. Either you're constrained by the amount of money that your product can cost or how big it can be, or how heavy it is or something. And these contests, you have constraints," Brouillette said.

It's also a good opportunity for students to work with their hands.

"They don't teach shop anymore. Many of the kids have never used a power tool before," Brouillette said.

Similarly, Dail said his shop classes helped him understand mathematics.

"I learned it in my math class, but it stuck when I had to use it in my shop class, so I think that's what's going on with these guys. It really just sinks in when they get to apply it for something fun," Dail said.

In addition to Pandian, Carlson and Minkus, Kishan Patel, Madala Mathurin, Ben Brantley and Rishi Zaveri round out the championship team. The Robohawks also have a talented exhibition team in Evan Smith, Hyeri Joo, Josh Wheeler, Michael Hume and Hyoseb Joo.

You can reach Staff Writer David Wallace at dwallace@candgnews.com or at (586) 498-1053.

please read

Farmington Observer

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Harrison Robohawks move on to world championship

Twenty-one teams from Michigan have advanced from the Michigan Regional Robofest Championship to compete in the 12th annual Robofest World Championship to be held at Lawrence Technological University on May 7.

Robofest is an international competition of autonomous robots – computer-programmed to act independently and not radio-controlled – that encourages students to have fun while learning principles of science, technology, engineering, and math.

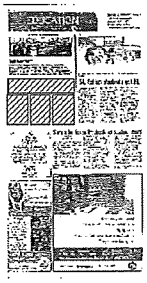
Students design, construct and program the robots, and adult coaches are not allowed to assist during the events. Teams compete in the junior division (grades 5-9) or senior division (grades 9-12), using a variety of computer programming languages to participate in various competitions such as games, exhibition, fashion show, and dance using various types of robots.

Here are the winners in the Michigan regional competition held at Lawrence Tech April 16:

• Senior Game Second Place: Harrison High School Robohawks of Farmington Hills, led by Coach Steve Dail.

• Senior Exhibition Second Place: Harrison High School Robohawks of Farmington Hills, led by Coach Steve Dail

Robofest is an annual competition inaugurated by Lawrence Tech Associate Professor CJ Chung in 2000. The scenario in this year's competition is that three pipes of a deepwater oil well are leaking. An autonomous robot must be sent to cap the leaking pipes, retrieve broken pipe assemblies, and collect data. Students need to solve math problems to achieve these missions.



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TIMES HERALD

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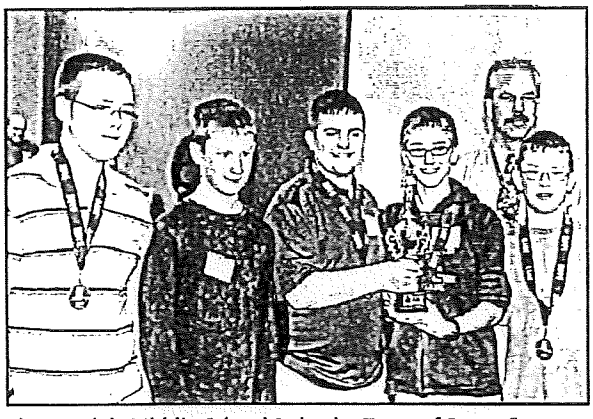
CLUBS AND ORGANIZATIONS

Middle School Robotics Team

ST. CLAIR — The St. Clair Middle School's rotobics team of eighth-graders Peter Gross and Jared Nichols, seventh-graders John Staiger and Adam George and sixth-grader Dylan Nichols earned second place at the Robofest qualifying tournament March 17 at Cobo Center in Detroit. They competed against nine other teams to advance to the Michigan Regional Saturday at Lawrence Technological University in Southfield. This year's Robofest mission simulated the capping of a broke oil pipeline.



The St. Clair Middle School Robotics Team of Peter Gross, left, Jared Nichols, John Staiger, Adam George and Dylan Nichols won second-place March 17 at the Robofest qualifying tournament. With them is site host Cliff Dupuy.

Account: 23947A (1827)
MI-2550

Huntington Woods - Berkeley Patch

5-15-11

'Can-Do' Spirit Drives Winning Norup Robotics Team

The students recently took top prize with a ninja-themed performance at the World Robofest 2011 Championship at Lawrence Technological University in Southfield.

By Alissa Malerman | Email the author | May 15, 2011

0 Comments

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Members of the Norup International School robotics team bask in the glow of their world championship at the Robofest robotics competition May 7 at Lawrence Technological University in Southfield. Mark Huff

Photos (2)

Photos

Credit Mark Huff

Credit Mark Huff

"It's an incredible feat to accomplish in one year's time," Huff said. "After the FIRST competition, they gave us a list of things to improve on. They went back and used the constructive criticism to their advantage. It was a great life lesson for the kids."

In April, the team took its new, improved act to Michigan regionals at Lawrence Tech. They placed third and qualified for the world championships during that competition, using their ninja robotics skills. See a video of the regionals and their routine here.

For the championships, the team added a robot, crafted to open a cage and release the emperor. A few more dance moves and choreography also were added.

"I'm really proud of the Robo Ninjas and excited that even though we struggled at FIRST, we were able to win (the Robofest championship)," Rezanka said. "Hopefully, we will be competing again in FIRST in the fall."

He said involvement in the FIRST Lego league depends whether the team can gather enough parent volunteers and support.

The world Robofest competition drew 436 teams and 1,483 students from 11 states and four countries. According to Lawrence Technological Institute's University News Bureau's Eric Pope, Robofest has spread to 10 states besides Michigan – Ohio, Indiana, Texas, Minnesota, Florida, Hawaii, California, Washington, Louisiana and New Hampshire – as well as Canada, Singapore, South Korea and China.

"The win speaks volumes about our children," Huff said. "Lawrence Tech said it was unheard of to win in the first year of competition. We have an outstanding group of kids. We were just there to help them find their direction. But they did all the work."

Hitchcock said he couldn't wait to see what the team comes up with next season.

"The students in the robotics program embody the spirit of those always striving to do their best," their principal said. "Through tireless work outside of school, numerous trials and errors and with can-do spirit, the robotics team triumphed over adversity."

Farmington Hills Patch 5-15-11

Harrison Robohawks Top World Competition

The Farmington Hills school's team built a winning robot at this year's Robofest.

By Michelle Munoz | Email the author | May 15, 2011

0 Comments

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 new

The Harrison Robotics Club won first place at the Robofest World Competition on May 7. From left: Daniel Carlson, Jacob Minkus, Balaji Pandian, Ben Brantley, Rishi Zaveri, Kishan Patel courtesy Robohawks coach Steve Dail

Photos (2)

Photos

 Credit courtesy Robohawks coach Steve Dail

 Credit courtesy Robohawks coach Steve Dail

Minkus said the anticipation of the competition was more pressure than the five seconds the robot was in action.

"Fortunately, it happened quick enough that our torture wasn't long," Minkus said. "It was more nerve-wracking before than during, because once it started, what happened, happened."

Pandian agreed, and said the time to complete the tasks went so fast, he didn't have time to be nervous.

"We just kind of stood there like awestruck," Pandian said. "It was a great feeling."

The Harrison High School Robotics Team used to compete with remote-control robots. Brouillette said the autonomous robots present a completely different obstacle.

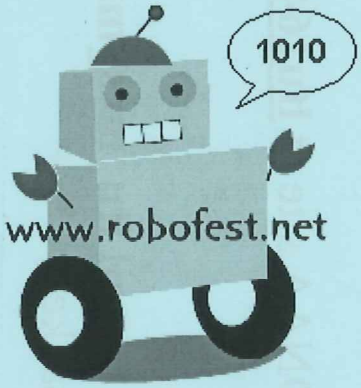
Before Brouillette joined as coach in 1999, the club participated in more costly, corporate-funded events. Now Brouillette, an engineer and former physics teacher, funds much of the project himself, with some help from the school district.

"It was great. We haven't come in first for a few years so that was real nice," Brouillette said. "The kids were really excited."

CBS Detroit .com | WWJTV CBS DETROIT | WWJ·950 NEWSRADIO

Lawrence Tech Hosting Robofest Regionals

April 5, 2011 4:42 PM



Seventy-one teams that have advanced from 10 qualifying events in Michigan will compete in the Michigan Regional Robofest Championship Saturday, April 16, from 9 a.m. to 3 p.m. in the Ridler Field House at Lawrence Technological University, 21000 W. 10 Mile Road, Southfield.

In this year's competition game, three pipes of a deepwater oil well are leaking. An autonomous robot must be sent to cap the leaking pipes, retrieve broken pipe assemblies, and collect data. Students need to solve math problems to achieve these missions.

Robofest admission and parking are free. Spectators can become judges to select people's choice awards. They may win raffle prizes.

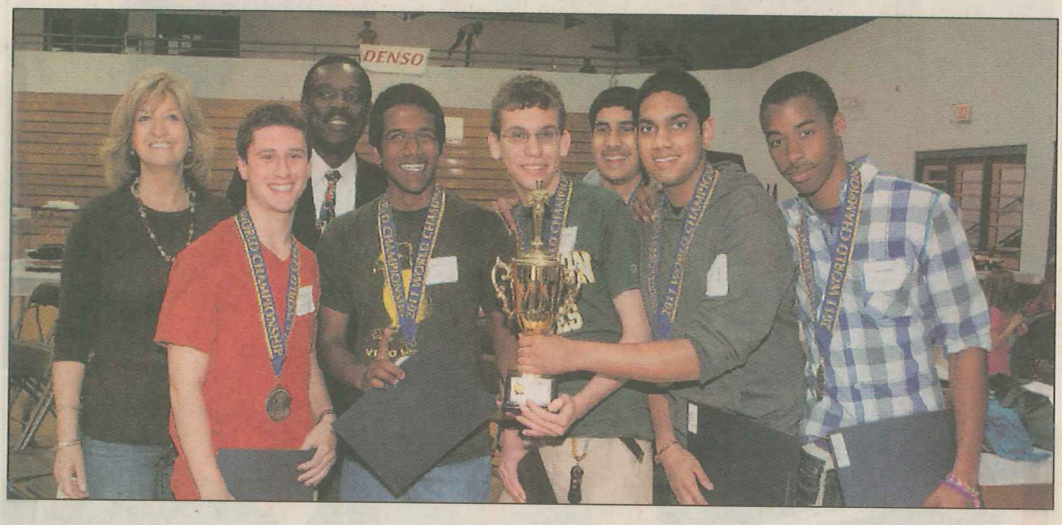
For more information, call (248) 204-3566, email robofest@ltu.edu, or visit www.robofest.net.

Robofest is a competition of autonomous robots – computer-programmed to act independently and not radio-controlled – that encourages students to have fun while learning principles of science, technology, engineering, and math.

Students design, construct and program the robots, and adult coaches are not allowed to assist during the events. Teams compete in the junior division (grades 5-9) or senior division (grades 9-12), using a variety of computer programming languages to participate in various competitions such as games, exhibition, fashion show, and dance using various types of robots.

This year's 10 qualifying competitions in Michigan drew over 161 teams. Twenty teams will be selected from the Michigan regional competition to advance to the 12th annual World Robofest Championship to be held on May 7 at Lawrence Tech.

Harrison's Robohawks win



Lawrence Tech Provost Maria Vaz and LEGO regional education representative Ivery Toussant Jr. presented the Robofest senior division game competition award to the Robohawks, from left, Jacob Minkus, Balaji Pandian, Daniel Carlson, Rishi Zaveri, Kishan Patel and Ben Brantley. Team member Madala Mathurin is not in the photo.

world championship

The Robohawks team from Harrison High School of Farmington Hills won the senior division game competition at the 2011 Robofest World Championship held at Lawrence Technological University on May 7.

Members of the winning team were Balaji Pandian, Kishan Patel, Daniel Carlson, Jacob Minkus, Rishi Zaveri, Madala Mathurin and Ben Brantley. They were coached by Barry Brouillette.

The scenario in this year's game competition was that three pipes of a deepwater oil well are leaking. An autonomous robot must be sent to cap the leaking pipes, retrieve broken pipe assemblies, and collect data. Students need to solve math problems to achieve these missions with an autonomous robot.

The Robohawks achieved a perfect score of 105 points in both rounds. The team had previously finished second in a qualifying competition in March and second again in the Michigan Regional Championship held at Lawrence Tech on April 16.

Robofest is an annual international competition of autonomous robots – computer-programmed to act independently and not radio-controlled – founded in 2000 by Lawrence Tech Associate Professor CJ Chung to encourage students to have fun while learning principles of science, technology, engineering, and math.

Students design, construct and program the robots, and adult coaches are not allowed to assist during the events. Teams compete in the junior division (grades 4-9) or senior division (grades 9-12), using a variety of computer programming languages to participate in various competitions such as games, exhibition, fashion show, and dance using various types of robots.

This year's Robofest competition involved 436 teams and 1,483 students. Robofest has spread to 10 states besides Michigan – Ohio, Indiana, Texas, Minnesota, Florida, Hawaii, California, Washington, Louisiana and New Hampshire – and Canada, Singapore, South Korea and China.

TECH NEWS
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Achievements | On Campus | University News

IN THE NEWS October 18, 2011

Defense industry association supports Robofest

Wednesday, January 12th, 2011

Jerry Lane (L) and Donald Kotchman of the Michigan chapter of the National Defense Industrial Association present a $5,000 contribution to Robofest to Associate Professor CJ Chung, Provost Maria Vaz and Arts and Sciences Associate Dean Glen Bauer.

The Michigan chapter of the National Defense Industrial Association (NDIA) has contributed $5,000 to the Robofest competition sponsored by Lawrence Technological University. The main purpose of NDIA's sponsorship is to support STEM (science, technology, engineering and math) education.

Robofest is a growing international competition of autonomous robots – computer -programmed to act independently and not radio-controlled – that encourages young students to have fun while learning principles of computer science, physics, math, engineering and technology.

Students design, construct and program the robots, and adult coaches are not allowed to assist during the events. Teams compete in the junior division (grades 5-9), senior division (grades 9-12) and college division using a variety of computer programming languages to accomplish numerous tasks with robots.

More than 1,500 students compete in regional competitions held around the United States and in several other countries during the winter. The world championship competition is held at Lawrence Tech in May.

Robofest was founded in 2000 by Lawrence Tech Associate Professor CJ Chung, who teaches computer science.

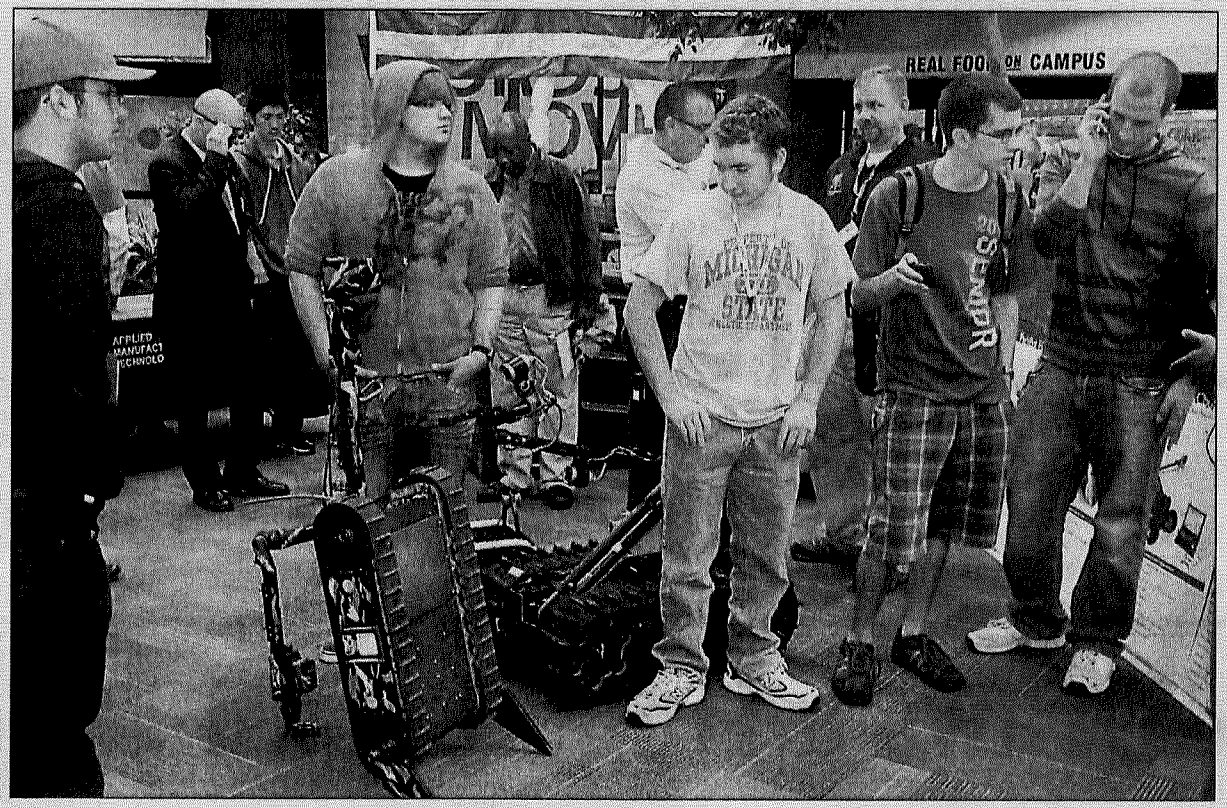
The NDIA contribution to support the 12th season in 2011 was presented to Chung by Donald Kotchman, a vice president at General Dynamics Land Systems and president of the NDIA chapter in Michigan.

Kotchman was joined by Jerry Lane, a robotics program manager at Science Applications International Corp. who is a director of the Michigan chapter and its lead for robotics.

Lawrence Tech Provost Maria Vaz thanked Kotchman and Lane for the NDIA's support. "This is a great way to encourage young students to pursue science and math, and we hope that some of the participants will study and pursue careers in computer science and engineering," Vaz said. "Robofest has grown because of the generosity of sponsors like NDIA."

LTU First-Ever Robo Expo Held on Campus

STORY AND PHOTOS
BY GERALD SCOTT



Lawrence Tech students check out the robots at LTU's first-ever Robo Expo, which brought in 20 different robotics vendors as well as a competition for the students. The Expo is largely designed to bring together academia, industry and government entities involved in robotic use and research.

They say the future of this century belongs to the robot.

Well, the present is getting pretty crowded with robots, too, as Lawrence Technological University's first-ever Robo Expo likely attested.

Big, crowded and full of students and faculty programming all manner of robots, the 2011 Robo Expo sought to bring together academia, industry and government entities supporting the fledgling robotics industry.

Held in the Management Building Atrium, sort of a central gathering point on the LTU campus in Southfield, the event demonstrated just how pervasive the interest in All Things Robotics is by the university-aged crowd these days.

The event was important enough to bring LTU President Dr. Lewis Walker to the podium for a few words of inspiration for his student and faculty charges.

"Welcome to this inaugural Robo Expo that we have here on campus," Walker said.

"During President Obama's visit to the Carnegie-Mellon National Robotics Engineering Center on June 24, he launched the Advanced Manufacturing Partnership, which is a very large program to bring industry, universities and government together to invest in emerging technologies, of which robotics is a large part.

"We think now is the time to have a network of organizations related to robotics in Michigan to provide a synergistic effect by working together. That's why we're really here today – is to be able to do that."

To be sure, robotics is more than just the amusement of seeing R2 and C3PO in the "Star Wars" movies or to have LTU students with robots shaped like dogs or jousting knights providing similar entertainment.

In fact, organizers point out, today robots are doing everything from painting ocean-going freighters and supertankers to overseeing crop production in the fields to guiding senior citizens around nursing homes.

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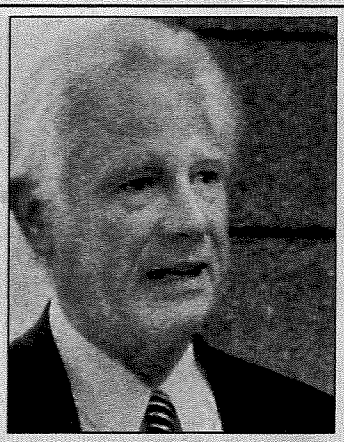
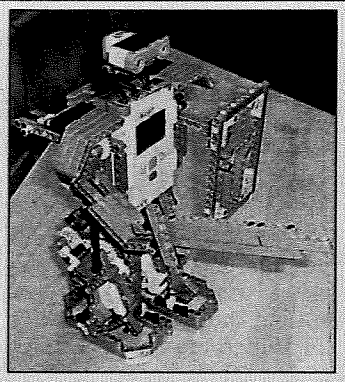
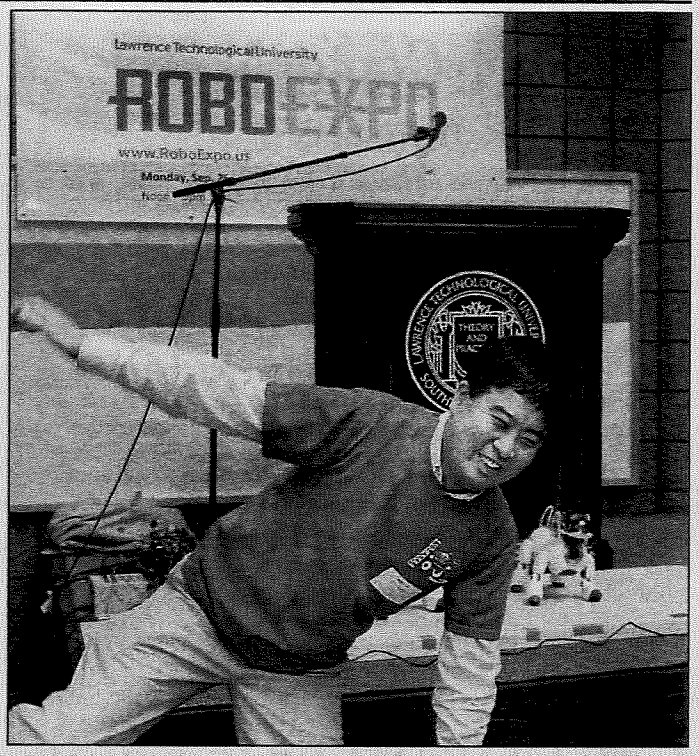


LTU President Lewis Walker addresses the Robo Expo at the university's Southfield campus.



An LTU robot, shaped like a knight, is holding a sword in its right hand. It was one of any number of automated gizmos running around LTU last week.



Associate Professor CJ Chung of LTU's Department of Math and Computer Science, mimicks the movements of the dance by the Sony AIBO robot dogs, background, at the LTU Robo Expo.

LTU sophomore Jon Nabozny with his entry at Lawrence Tech's first-ever Robo Expo. Nabozny's robot uses an IBM Thinkpad's mounted web-cam for guidance, together with batteries, wheels and a motor for locomotion on his ground robot.

Before Our Very Eyes, Robotics Goes from Oddity to Mainstream

CONTINUED FROM PAGE 2

LTU President Walker continued to point out that even though robots are intrinsically fun in and of themselves, they nonetheless continue to inculcate themselves into mainstream society by performing repetitive or hard-to-access tasks in a fashion more consistent than any human could ever possibly perform.

Surgeons use the da Vinci Robot surgical tool, for example, to conduct prostate cancer surgery in a more accurate fashion than could ever be done before, while Japanese officials used robots to first assess the damage done to the Fukushima nuclear complex in Japan following the recent earthquake and tidal wave there.

Added Walker, "Robotics can address a broad range of national needs by preparing students in a wide variety of fields such as advanced manufacturing, logistics, services, transportation, homeland security, defense, medicine, health care, space exploration, environmental monitoring, agriculture and others to be sure.

"In addition, robotics can play an important role in science, technology, engineering and mathematics – which we know as STEM education, which is very important to us in this country.

"It helps there because it really encourages hands-on learning and the integration of science, engineering and creative thinking in a project that's fun and kids love to get involved in and really like to do.

"The goals of this RoboExpo are to share knowledge and resources, to introduce and demonstrate new products and new robotics products, services and educational programs . . . and to promote R&D collaboration.

"In addition, job seekers will have the opportunity to meet with employers in the robotics field.

"We see robotics as becoming one of the fastest-growing and most important frontiers in American engineering now."

Robotics involves more than just a play fest or lip service at LTU. The school is reportedly only the second in the country to offer an engineering degree in robotics science for undergraduates.

LTU student Joe Nabozny, of Belleville, said that the robotics program is what brought him to Lawrence Tech in the first place and that even as a sophomore, he's now immersed in one of the best robotics engineering programs in the country.

Note that LTU has long hosted a RoboFest that is more along competitive lines so that now the new Robo Expo offers students a broader sweep of what's available in this rapidly growing industry.

So on one hand you have typical college students who are geeked to "test drive" military Pack Bots that were on display, but you also have other students like Nabozny who are now following a pure academic path where he's effectively majoring in robotics.

The future is being created right here on a local college campus that is otherwise a consistent feeder of Mechanical Engineering and Electrical Engineering graduates into the resident auto industry.

Move over auto, and make way for pure robotics. That seemed to be the message as young college students and middle-aged college professors alike were collectively all geeked up about putting new ground robots to work.

2012

Helping county's kids gain STEM proficiency

A new summer camp for kids debuted in Macomb County this summer focused on science, technology, engineering and math (STEM), with curriculum provided by Macomb's Center for Advance Automotive Technology (CAAT) and College 4 Kids program.

Velocity Jr. for students kindergarten through eighth grade was offered at Michigan's first dedicated STEM education center housed in Sterling Heights' Rose Kidd Elementary School. Macomb's offerings included *Lego Fun-gineering*, where students built advanced machines using Legos®; *Roamer the Robot*, which entailed programming a robot to navigate an obstacle course; and *Electric Vehicle Bumps and Jumps*, a course devoted to alternative energy options with a focus on designing and building electric cars.

"Our ongoing interaction with industry indicates that we need to expose area youth to STEM-related careers today in order for them to be prepared to compete for the jobs of tomorrow," said Joe Petrosky, Macomb's dean of engineering and advanced technology. "Our strategy for encouraging young people down this path is simple: spark interest when students are young by providing fun, exciting and interactive learning opportunities that demystify science, math and technology and illustrate the potential of careers in advanced manufacturing and technical fields."

As part of its ongoing efforts to cultivate interest and aptitude for careers in advanced automotive technology, Macomb's CAAT underwrote all of Macomb's courses in *Velocity Jr.*, including supplies, lunches and t-shirts for the students. Macomb joined Western Michigan, Lawrence Technological and Oakland universities in providing the curriculum for this STEM-specific summer camp, which was organized by the City of Sterling Heights and Utica Community Schools.

"To have a real impact, collaboration is essential," acknowledged Petrosky, who pointed to the current Physics Playground for preschoolers and the Robotics, Engineering and Technology Days for high school students in December as other ways the College is nurturing the next generation of scientists, engineers and mathematicians. "From Macomb's perspective, building interest and proficiency in STEM-related education is vital to enhancing sustainable job opportunities and promoting long-term, positive economic growth."

Chris Cartwright from Lawrence Technological University assists Dakota High School students Rodney Ridley (left) and Aaron Miller with programming a robot at the annual Robotics, Engineering and Technology Days for high school students held at Macomb last winter.

VELOCITY Jr.

Alumna's ST career is a st ahead of its t

When Jackie Brown runs for the first tim City's famed marathon this November, she peting against approximately 47,000 othe few Olympic medalists. But, in characterist considers the field to be much smaller than

"About 12 weeks before a race, I do a l weekend. As long as you can run 18–20 mi you can finish a marathon," says Brown marathons both in the U.S. and abroad. " constantly compete with yourself."

It's a philosophy that has also been a d her career. Beginning as a cooperative edu at General Motors Co. while attending Mac 1980s, Brown worked her way up into the m and is now a senior project engineer in Dat Electronic Discovery, responsible for analyz data related to accidents involving G.M. ve

"I look at accidents after they happen," and, she admits, it's a job that can weigh h psyche. "Someone has either died or been se or their car has been totaled. But, I know at day that in some small way, I am making people to drive."

An "unusual" trajectory

Brown has been a project engineer sin to that, she worked in special projects, on engineering staff, and as a senior designer, and design group supervisor. She became a p in Contract Services Talent Acquisition in 2(followed by project manager in TREAD AC (involving fatality reports), which lead to he tion.

And all along the way, she has consiste the training and expertise necessary to ex she undertakes.

From Macomb, she earned an associate ence degree in tool fixture and design. For a moving from co-op student to full-time G she concentrated on learning her job(s) an culture. When she decided it was time to a computer aided design, she earned a ba in business management from the Univers followed by a master's in business admi Walsh College.

"But, it became pretty clear," notes Brown, to go anywhere in engineering, you neede ing degree."

Arotech, Realtime Technologies, NDIA Support Robofest, Intelligent Vehicle Competition

Three donors to the University were inducted into the Presidents Club (Lifetime) for their support of Robofest, the international autonomous robotics competition founded by Lawrence Tech Professor CJ Chung, and the Intelligent Ground Vehicle Competition (IGVC) in which Lawrence Tech students participate.

Arotech, a defense and security products company based in Ann Arbor, provides zinc-air and lithium batteries and chargers, multimedia interactive simulators and trainers, and armoring for personnel and vehicles for military, law enforcement, and security organizations.

Richard Romero, president, Realtime Technologies, Inc. (L) and Jerry Lane, NDIA-Michigan Chapter, were on hand to accept their respective organization's induction into the Presidents Club (Lifetime) for ongoing support of Robofest and the Intelligent Ground Vehicle Competition.

Realtime Technologies, a maker of advanced simulation and real-time tools, is headquartered in Michigan with an office in South Jordan, Utah. The company specializes in multibody vehicle dynamics and graphical simulation and modeling with software and hardware capabilities, engineering solutions, and technical support.

The National Defense Industry Association, which provides a legal and ethical forum for the exchange of information between industry and government on issues of national security, also stepped up to support Robofest because of its commitment to encouraging young people to study for careers in science, technology, engineering, and math.

Chung, from the Department of Math and Computer Science, established Robofest and the Autonomous Robotics Institute for Students and Educators (ARISE!) at Lawrence Tech in 2000 "to spark interest in these disciplines."

Each year, teams of students from nearly 50 qualifying sites and local competitions around the world come to Lawrence Tech for the world championship to compete in junior (grades 5-9), senior (grades 9-12), and college divisions.

Funding from these donors also helped underwrite the costs of student participation in the IGVC. Their sponsorships have helped the following robotic vehicle projects: H2Bot II (2007), Armadillo (2007), Viper (2008), Viper II (2009), Culture Shock (2010), vuLTUre (2011).

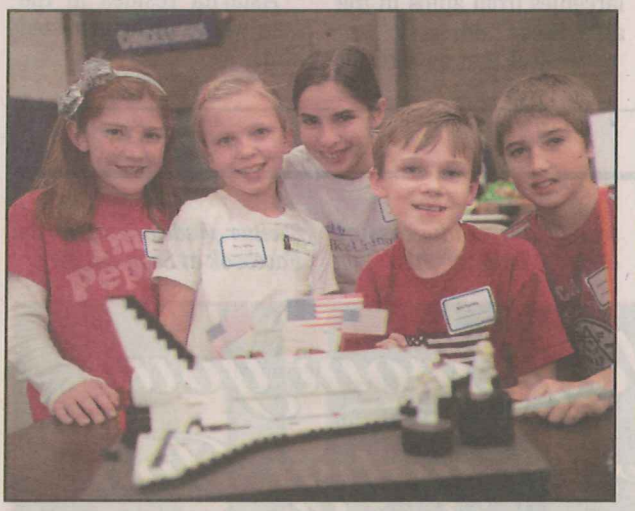
Robots on parade

Courageous Team's 1-5, from Homeschool Robotics in Sterling Heights, stand next to their RoboParade floats. Participants included Matthews Ryan, Marek Krasinski, Brayden Metcalf, Emerson Schumacher, Alina Krasinski, Samantha Kolar, Pauline Baranyk, Samantha Sherman and Mark Baranyk, Assistant Coach Doug Metcalf, Rich Schumacher, Chris Baranyk and Coach Jackie Ryan.

The seventh annual Thanksgiving RoboParade took place Nov. 17 at Macomb Community College's South Campus Sports and Expo Center in Warren. The program, put on by Lawrence Technological University's Robofest, required 39 teams to build fully autonomous miniature parade floats that that could follow a small parade route.

Jennifer Carbery and Elijah Fry show off their first-place Sumobot, a robot that competed against another robot in being the first to push an object off a table. The team competed and won against other teams in a national competition, which now has Fry going to Korea to compete in the International Robofest on Dec. 11.

Teams from all over the tri-county area competed against each other in the parade, where each team's robots were put on a circular route and, with the proper programming, strolled along the path by themselves.



From left, Sophia Propson, Anna Tyshka, Molly Propson, Alex Tyshka and Zachary Propson stand next to their space shuttle-inspired design. Based out of Washington Township, the team of cousins made up The Fearsome Five.

Source photos/Eric Perry

Using any available materials, kids were asked to build fully autonomous robotic versions of parade floats, which had to use sensors that would allow the robots to follow a black line.

The Advisor

Macomb Twp., Mt. Clemens, Clinton Twp., Harrison Twp. Edition

Source

November 25, 2012

Stores,

Robots on parade

Using any available materials, kids were asked to build fully autonomous robotic versions of parade floats, which had to use sensors that would allow the robots to follow a black line.

Photos by Eric Perry

The seventh annual Thanksgiving RoboParade took place Nov. 17 at Macomb Community College's South Campus Sports and Expo Center in Warren. The program, put on by Lawrence Technological University's Robofest, required 39 teams to build fully autonomous miniature parade floats that could follow a small parade route. Above, Courageous Team's 1-5, from Homeschool Robotics in Sterling Heights, stand next to their RoboParade floats. Participants included Matthews Ryan, Marek Krasinski, Brayden Metcalf, Emerson Schumacher, Alina Krasinski, Samantha Kolar, Pauline Baranyk, Samantha Sherman and Mark Baranyk, Assistant Coach Doug Metcalf, Rich Schumacher, Chris Baranyk and Coach Jackie Ryan.

Above, from left, Sophia Propson, Anna Tyshka, Molly Propson, Alex Tyshka and Zachary Propson stand next to their space shuttle-inspired design. Based out of Washington Township, the team of cousins made up The Fearsome Five. Left, teams from all over the tri-county area competed against each other in the parade, where each team's robots were put on a circular route and, with the proper programming, strolled along the path by themselves.

Bottle RoboSumo champions

Jennifer Carbery of Macomb Township and Elijah Fry of Troy (holding the trophy and prize) won the senior division of the Bottle RoboSumo North American Championship held Nov. 3 at Lawrence Technological University in Southfield. Behind them are, from left, Ivery Toussant representing the event sponsor LEGO(r) Education, judges Ann Maten and Don Dubois, and coach David Carbery of Macomb Township. In the competition, the student teams must program their robots to find and intentionally push a two-liter bottle (filled with a liter of water) off the table or be the last robot remaining on the table. RoboSumo usually involves pushing an opponent off the table, and the introduction of a bottle as an additional target object makes the game more challenging. The competitors include 15 junior teams (grades 5-8) and 10 senior teams (grades 9-12) from Battle Creek, Canton, Detroit, Macomb Township, Milan, Northville, Rochester Hills, South Lyon, and Sterling Heights. A team from Markham, Ont., made this an international event.

 India, 2013

Robots were the heroes of the day

Students build and program autonomous robots at Robofest competition

Staff Reporter

BANGALORE: Young scientists in the city had a date with "smart machines" on Sunday, as Robofest gave school students an opportunity to "master the machine" by decoding the mystery behind robots.

Novatech Robo, Bangalore, in association with Lawrence Technological University, Michigan, held the robotics competition at Ebenezer International School, Hosur Road, here.

Over 140 students from around 20 schools put their mind to marrying science, mathematics, computers and engineering.

They were competing in junior (classes 5 to 8) and senior (classes 9 to 12) categories.

According to a press release here, Robofest gave students a chance to create autonomous robots programmed to act independently and not be remote controlled. This, the organisers said, "encourages students to have fun while learning the principles of science, technology, engineering and maths (STEM) and information and communication technologies (ICT)."

NOT A GAME: *Students put principles of science, mathematics, computers and engineering to use to create robots that could search, rescue, cleanup and collect data, at Robofest in Bangalore on Sunday.*

The theme for this year's competition was SRCC (search, rescue, cleanup and collect data), where a five-storey building (represented by boxes) is facing a chemical attack or accident. People are trapped in one 'floor', which is marked with black. The job of the robot is to search the building and bring people to safety, clean up the contaminated 'floors', and collect data and calculate the area that is contaminated.

An exhibition accompanied the competition. On display were various models of robots, both educational and entertaining.