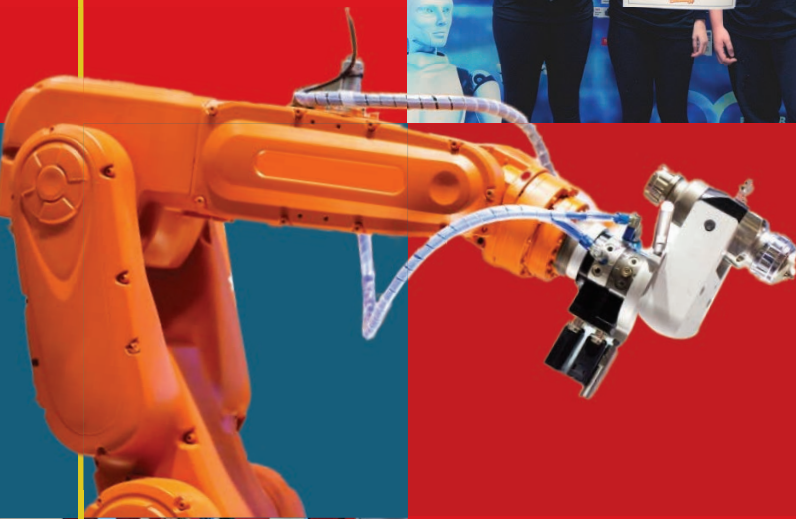




NFPA
Education and
Technology
Foundation



2024

DONOR IMPACT

REPORT

2024-25 NFPA EDUCATION AND TECHNOLOGY FOUNDATION BOARD OF DIRECTORS



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OUR MISSION

Members of the National Fluid Power Association (NFPA) consistently rank the recruitment of a skilled workforce as among the most challenging issues their companies face. This is likely because not enough technical colleges or universities are teaching hydraulics and pneumatics, nor preparing their students for careers in the fluid power industry.

As a result, NFPA has identified growing the fluid power workforce as one of its primary strategic priorities. It is central to its mission of strengthening the fluid power industry. NFPA seeks to increase the number of technical college and university students educated in fluid power, and to connect them to jobs in our industry.

The NFPA Education and Technology Foundation is a tax-exempt, charitable organization, affiliated with NFPA, that is dedicated to meeting this workforce development need. Through the generous support of our donors, we are impacting the lives of thousands by:

- Creating more educated fluid power technicians, by funding student outreach and education programs, designed to create a pathway into the fluid power industry; and

- Creating more educated fluid power engineers, by funding education and recruitment programs, designed to better engage academic faculty in the teaching of fluid power and connecting their students to fluid power career opportunities.

Because of your support, our programs are helping to change the talent pool available to our industry. More young people are aware of the fluid power industry. More 2-year technical college and 4-year university graduates have specific training in fluid power. More technical colleges and universities have education programs focused on fluid power. And more partnerships between these schools and our industry are increasing access to highly talented candidates.

This is truly our mission—yours and ours—and it is working. Your donations will make sure it works for many years to come.

Best Regards,

Eric Lanke – President/CEO
NFPA Education and Technology Foundation

FAST TRACK TO FLUID POWER

Creating More Educated Fluid Power Technicians

To create more fluid power-educated Technical College graduates, the NFPA and the NFPA Foundation offer our **FAST TRACK TO FLUID POWER** initiative, a series of outreach and education programs designed to create a pathway into the fluid power industry. These programs include:

Fluid Power Action Challenge.

Engages thousands of middle school students in learning about and having fun with fluid power. It raises awareness among students, educators, and parents. Industry partners serve as coaches and judges.

Fast Track High Schools.

Equipped with fluid power equipment and curriculum, they teach real-world fluid power and generate interest in fluid power careers. Industry partners visit the schools frequently and provide mentorship and career encouragement.

Fluid Power Scholarships.

Offered to graduating high school students in order to pursue fluid power degrees or certificates at designated technical colleges and universities. Industry partners serve on the scholarship review committee that makes funding decisions.

Fast Track Technical Colleges.

Teach validated core fluid power competencies in a 2-year degree program. Industry partners provide on-going curriculum guidance and student internship opportunities.



NFPA Fluid Power Action Challenge

31,000+ Middle and High School Students Engaged in Fluid Power Activities

The Fluid Power Action Challenge is a STEM-based competition that challenges middle school or high school students to solve a real-life engineering problem by building a fluid power mechanism made from balsa wood and plastic syringes.

The students work in teams to design and build a fluid power mechanism and then compete against other teams in a timed competition to see who can score the most points with their fluid power device.

The Fluid Power Action Challenge has many benefits:

- Actively engages students in learning about fluid power.
- Gives support and resources to teachers for science and technology curriculum.
- Creates a learning environment where math and science are fun.
- Encourages students to practice teamwork, engineering, and problem-solving skills.
- Introduces students to careers in the fluid power industry.

Hundreds of individuals in NFPA member companies and education partner institutions have been involved in mentorship, classroom activities, and events related to the Fluid Power Action Challenge, which have engaged more than 31,000 students to date.

FLUID POWER ACTION CHALLENGE CHAMPIONS

36 NFPA member companies and education partners from across the country have been recognized as Fluid Power Action Challenge Champions for their efforts in organizing and executing Fluid Power Action Challenge events in their local communities. In doing so, they have made serious investments of both time and money. They have also helped spread information about our industry and reaped the benefits that come with connecting their organizations to the schools and science classrooms where the industry's future employees are learning fluid power for the first time.

These Fluid Power Action Challenge Champions are:

- Bennett Mills Middle School** - 4 annual events, engaging 180 total students
- Bucher Hydraulics** - 2 events, engaging 64 total students
- Caterpillar** - 5 annual events, engaging 372 total students
- Cleveland Community College** - 6 annual events, engaging 198 total students
- Community Consolidated School District 54** - 1 annual event, engaging 72 total students
- Cooper Middle School** - 3 annual events, engaging 171 total students
- Daman Products Company** - 10 annual events, engaging 904 total students

Deltrol Fluid Products - 13 annual events, engaging 2,740 total students

Dura-Bar - 3 annual events, engaging 290 total students

Eisenhower Junior High - 2 annual events, engaging 36 total students

Florida Technology Student Association - 5 annual events, engaging 129 total students

FORCE America - 9 annual events, engaging 553 total students

Georgia Tech University - 2 annual events, engaging 136 total students

Gulliver - 1 annual event, engaging 90 total students

Husco and Waukesha STEM Academy - 4 annual events, engaging 332 total students

Hydraquip - 1 annual event, engaging 18 total students

Hydrotech - 1 annual event, engaging 20 total students

Jerling Middle School - 4 annual events, engaging 803 total students

Komatsu Mining Corp Group - 4 annual events, engaging 347 total students

LoneStar Community College - 3 annual events, engaging 65 total students

Master Pneumatic - 8 annual events, engaging 1,250 total students

Mequon School District - 1 annual event, engaging 36 total students

Micromatic - 1 annual event, engaging 20 total students

Milwaukee School of Engineering - 15 annual events, engaging 1,582 total students

Oak Prairie Middle School - 2 annual events, engaging 68 students

Parker Hannifin - 2 annual events, engaging 44 total students

Peninsular Cylinder Company - 1 annual event, engaging 110 total students

Pennsylvania Small Business Education Fund - 5 annual events, engaging 604 total students

Price Engineering - 7 annual events, engaging 1,031 total students

Purdue University - 7 annual events, engaging 373 total students

Ridgewood High School - 3 events, engaging 509 total students

University of Minnesota - 5 annual events, engaging 352 total students

Triton Girls Summer Camp - 2 annual events engaging 80 total students

Triton College - 2 annual events, engaging 52 total students

Wojanis Supply Company - 10 annual events, engaging 911 total students

SMC Business Councils - 2 annual events, engaging 224 total students

Valley View Junior High School - 3 annual events, engaging 324 total students

In total, our Fluid Power Action Challenge Champions have organized **159 events** impacting **15,090 students**.



FAST TRACK HIGH SCHOOLS

Schools Engaging Students with Fluid Power Technology and Careers

As each Fast Track to Fluid Power program comes online in communities around the country, the NFPA Foundation provides grants to local high schools so they can purchase fluid power training platforms or participate in professional development training so that they can more effectively teach the fluid power curriculum associated with their chosen training platform, or purchase other materials they may need to offer targeted fluid power education to their students.

In addition, NFPA members of our industry donor coalition help to support these activities and the growth of future Fast Track networks by offering mentorship and information on careers in fluid power.

As a result, these high school students have expressed interest in continuing their fluid power education at the Fast Track Technical Colleges following their high school graduation. This is confirmation that the Fast Track pathway is working, leading students into fluid power careers.



FLUID POWER ACTION CHALLENGE GRANTS

The NFPA Foundation awards middle and high schools grants to facilitate hydraulics and pneumatics curriculum and programming. Grant awards defray the costs related to the educational aspects of the Fluid Power Action Challenge Program—either for the fluid power kits for classroom use or participation in the Fluid Power Action Challenge event.

Schools and organizations awarded these grants in our 2023-24 program year include:

- American High School, Freemont, CA
- Avon Grove High School, West Grove, PA
- Bayside Middle School, Bayside, WI
- Beer Middle School, Warren, MI
- Carleton Middle School, Warren, MI
- Carter Middle School, Warren, MI
- Creekside Middle School, Woodstock, IL
- Cooper Elementary School, Milwaukee, WI
- Dundee Middle School, West Dundee, IL
- Eisenhower Junior High School, New Berlin, WI
- Eisenhower High School, New Berlin, WI
- Frost Junior High School, Hoffman Estates, IL
- George Warriner Middle School, Sheboygan, WI
- Grissom Middle School, Warren, MI
- Hamilton High School, Sussex, WI
- Hampshire High School, Hampshire, IL
- Horning Middle School, Waukesha, WI
- Jacobs High School, Algonquin, IL
- Jane Addams Junior High School, Schaumburg, IL
- Johnsborg Junior High, Crystal Lake, IL
- Ka'ohao Public Charter School, Kailua, HI
- Keller Junior High School, Hoffman Estates, IL
- Lafayette Middle School, Uniontown, PA
- Lake Country Schools, Hartland, WI
- Lake Mills Middle School, Lake Mills, WI
- Lincoln Prairie School, Hoffman Estates, IL
- Macomb Community College, Warren, MI
- Maple Dale School, Fox Point, WI
- Maryland Avenue Montessori School, Milwaukee, WI
- Mead Junior High School, Elk Grove Village, IL

- Montini Middle School, McHenry, IL
- National Society of Black Engineers, Pearland, TX
- New Berlin West High School, New Berlin, WI
- Northwood Middle School, Woodstock, IL
- Oak Prairie Junior High School, Homer Glen, IL
- Osakis Public Schools, Osakis, MN
- Pensacola High School, Pensacola, FL
- Pinson Valley High School, Pinson, AL
- Prairieland ISD High School, Pattonville, TX
- Redbank Valley Junior and Senior High School, New Bethlehem, PA
- Richmond School District, Sussex, WI
- Ridgewood High School, Norridge, IL
- Saratoga Elementary School, Morris, IL
- St. Mary Catholic School, Woodstock, IL
- Tigert Middle School, Soda Springs, ID
- Valley View Junior High School, Farmersville, OH
- West Clermont Middle School, Batavia, OH

In total, **281 schools** have used Fluid Power Challenge materials in their curricula, exposing **18,189 students** to fluid power.



FLUID POWER SCHOLARSHIPS

104 Scholarships Awarded to Further Fluid Power Education

Fluid Power Scholarships are offered to graduating high school students, and students enrolled in technical colleges and universities, to pursue fluid power degrees or certificates.

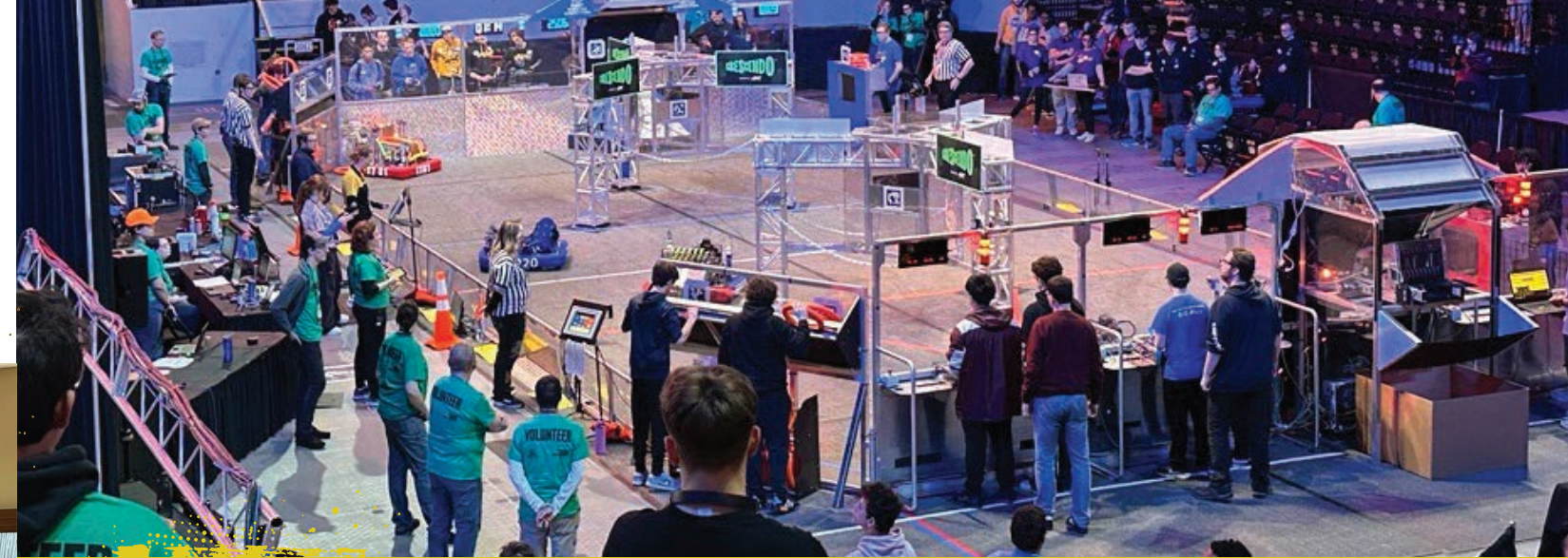
Thanks to an on-going series of annual gifts from the International Fluid Power Society, the NFPA Foundation has set-up a dedicated scholarship fund that has awarded 95 \$2,000 scholarships to students interested in studying fluid power at one of our education partner institutions.

2023-24 Fluid Power Scholarship Awardees:

- Albert Ly, Illinois Institute of Technology
- April Polston, Murray State University
- Athena Shier, University of South Carolina
- Ben Quade, Iowa State University (Raymond F. Hanley Memorial Award)
- Bentley Soukhaphaly, University of Wisconsin-Madison (Robert Mackey Memorial Award)



- Brendan McCluskey, Georgia Institute of Technology
- Christopher Swarner, California Polytechnic State University-San Luis Obispo
- Connor Stonerock, Ohio University
- Ethan Smoes, LeTourneau University
- Evan Fender, Wright State University
- Gabriel Schroeffer, Northern Illinois University
- Giovanni Hernandez, University of California-Irvine
- James Oosterhouse, University of Michigan-Ann Arbor
- Kaedyn Peterson-Rucker, University of Wisconsin-Madison
- Marco Vanoni, Michigan State University
- Mason Maile, Milwaukee School of Engineering
- Matthew Brooks, Tarleton State University
- Olivia DeBoer, Harvey Mudd College
- Richard Misner, Macomb Community College
- Sonnet Xu, Stanford University



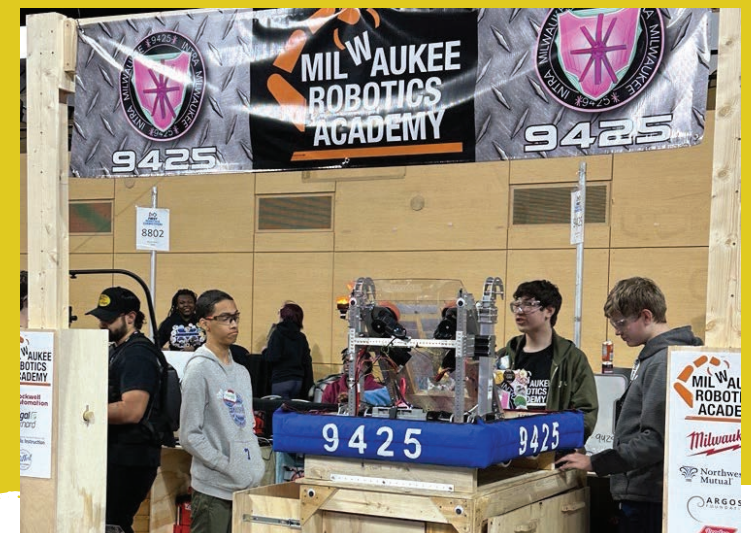
NFPA Fluid Power ROBOTICS Challenge

The Fluid Power Robotics Challenge aims to bring an awareness of fluid power options in robotics to high school students and stimulate increased use of fluid power products in the FIRST and VEX competitions. Each year, students that use fluid power in their robot design receive substantial scholarships – up to \$10,000 a year for up to 4 years of college.

Fluid Power Robotics Challenge Scholarships Awarded:

- 2023 - **Megan Tian** - \$7,500 a year to pursue a degree in Computer Science at Massachusetts Institute of Technology
- 2023 – **Isabel Williams** - \$5,000 one-time to pursue a degree in Mechanical Engineering at Michigan Technological University
- 2023 – **Elliot Scher** - \$5,000 one-time to pursue a degree in Robotics Engineering & Computer Science at Worcester Polytechnic Institute
- 2022 - **Colton Seitz** - \$10,000 a year to pursue a degree in Mechanical Engineering at the University of Alabama
- 2021 - **Caleb Qiu** - \$10,000 a year to double major in Biomedical Engineering and Computer Science Engineering at the University of Michigan
- 2020 - **Matthew Morley** - \$10,000 a year to pursue a degree in Mechanical Engineering at Northeastern University
- 2019 - **Noah Santoni** - \$10,000 a year to pursue a degree in Mechanical Engineering at Case Western Reserve University
- 2018 - **Jacob Barnes** - \$10,000 a year to pursue a degree in Electrical Engineering at California Polytechnic State University
- 2017 – **Spencer Tiegs** - \$10,000 a year to pursue a degree in Mechanical Engineering at the Milwaukee School of Engineering

The program is increasing the use of fluid power by these students, with all our robotic competition partners reporting an increase in the number of teams using fluid power in their designs.



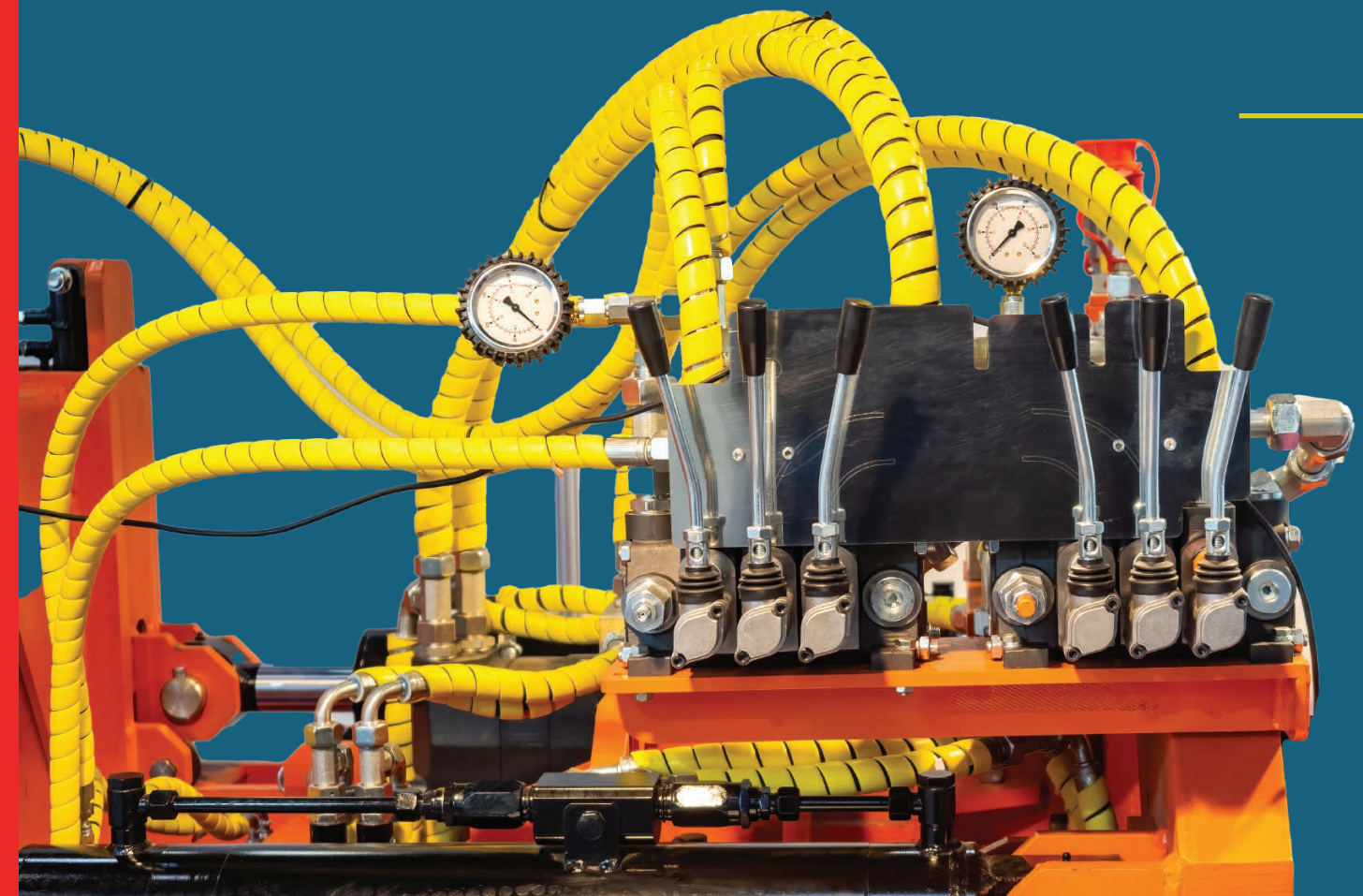
FAST TRACK TECHNICAL COLLEGES

Connecting Tech School Grads to Fluid Power

Fast Track Technical Colleges are schools with a 2-year degree program validated to teach core fluid power competencies.

There are three Fast Track Technical Colleges up and running – one in Milwaukee, WI, headquartered at Waukesha County Technical College, one in Chicago, IL, at Triton College, and one in Warren, MI, at Macomb Community College. In the 2023-24 school year, the fluid power degree programs at these schools provided advanced-level training to 592 students.

Those students were supported by the coalition of industry partners, who actively engage to provide guidance and feedback to instructors, and also internship and employment opportunities via the Workforce Engagement Groups. In the 2023-24 school year, 45 NFPA members have participated in these groups.



TOM WANKE LEGACY SCHOLARSHIPS

Tom Wanke was a monumental figure in fluid power, active for more than 50 years and influencing generations of fluid power engineers through his work at the Milwaukee School of Engineering, its Fluid Power Institute, and with the National Fluid Power Association.

To honor his memory, and to help ensure that his positive impact on fluid power education continues to be felt, the NFPA Education and Technology Foundation established the Tom Wanke Legacy Fund, which now awards scholarships to meritorious students committed to pursuing careers in fluid power.

2023-24 Tom Wanke Legacy Scholarship Awardees:

- Tatiyana Timmons, Murray State University
- Tony Hicks Jr., Morehouse College
- Hannah Shu, Stanford University

TEACHING AND LABORATORY GRANTS

Many more 2-year technical colleges are teaching fluid power to their student bodies as a result of our Teaching and Laboratory Grant programs. These grants provide schools with the teaching materials and state-of-the-art teaching laboratories that are needed to embed fluid power into their training curriculum.

To date, 8 schools have received Teaching Grants and 9 schools have received Laboratory Grants. As a result of these investments, students at the following schools have more access to fluid power curriculum and hands-on learning.

Teaching Grants

- Central Community College - Grand Island, NE
- Cleveland Community College - Shelby, NC
- Hennepin Technical College - Eden Prairie, MN
- Ivy Tech Community College - Columbus, IN
- Kaskaskia College - Centralia, IL
- Texas State Technical College - Waco, TX
- Triton College - River Grove, IL
- Vernon College - Vernon, TX

Laboratory Grants

- Angelina College - Lufkin, TX
- Central Community College - Grand Island, NE
- Cleveland Community College - Shelby, NC
- Eastern Iowa Community College - Davenport, IA
- Hennepin Technical College - Eden Prairie, MN
- Macomb Community College - Warren, MI
- Marshalltown Community College - Marshalltown, IA
- South Central College - North Mankato, MN
- Triton College - River Grove, IL



POWER PARTNER UNIVERSITIES

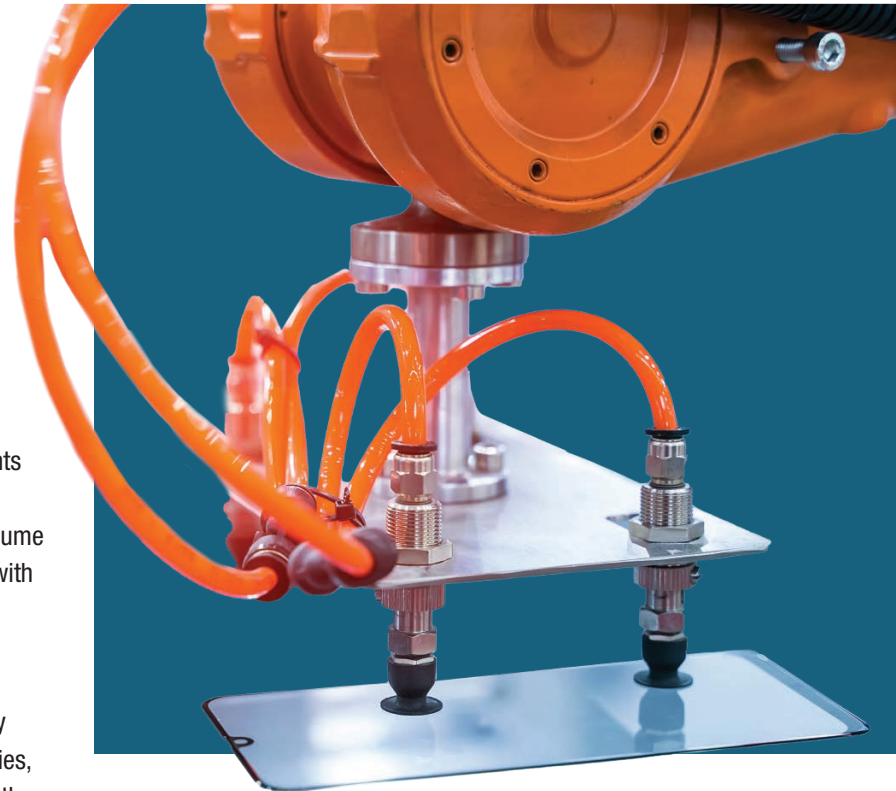
Creating More Educated Fluid Power Engineers

To create more fluid power-educated university engineers, the NFPA and the NFPA Foundation offer our POWER PARTNER UNIVERSITIES initiative, a series of education and recruitment programs designed to better engage faculty and students in learning about fluid power technology and careers. These programs include:

Fluid Power Curriculum Grants. Help develop engineering curriculum to teach the core fluid power competencies that our industry members have identified as most important for entry-level engineers in the fluid power industry.

Fluid Power Clubs. Engage undergraduate engineering students in fluid power education and careers. They organize fluid power study groups and social events, launch student job fairs and resume building workshops, and invite industry professionals to speak with them about career opportunities in fluid power.

Fluid Power Vehicle Challenge. Design and build a human-powered vehicle that incorporates fluid power. The project easily embeds in the capstone design course of participating universities, teaches hands-on fluid power, and connects students to jobs in the fluid power industry.



Industry Connection Events. Hosted events on university campuses to introduce fluid power-educated students to companies in the NFPA membership.

There are currently 7 universities that engage their students in all these programs and therefore qualify as **POWER PARTNER UNIVERSITIES**. They are:

- Cleveland State University in Ohio
- Iowa State University in Iowa
- Milwaukee School of Engineering in Wisconsin
- Murray State University in Kentucky
- North Carolina A&T University in North Carolina
- Northern Illinois University in Illinois
- Purdue University in Indiana



FLUID POWER CURRICULUM GRANTS

Teaching Core Fluid Power Competencies

Many more 4-year universities are teaching fluid power to their student bodies as a result of our multiple grant programs. These grants provide schools with the teaching materials and state-of-the-art teaching laboratories that are needed to embed fluid power into their undergraduate curriculum.

To date, 9 schools have received Fluid Power University Grants, 16 schools have received teaching grants, 2 schools have received laboratory grants, and 4 schools have received curriculum grants.

Fluid Power University Grants

- Michigan Technological University - Houghton, MI
- Milwaukee School of Engineering - Milwaukee, WI
- Murray State University - Murray, KY
- North Carolina Agricultural and Technical State University - Greensboro, NC
- Ohio University - Athens, OH
- South Dakota State University - Brookings, SD
- Purdue University - West Lafayette, IN
- Purdue University Northwest - Hammond, IN
- University of Kentucky - Lexington, KY

Teaching Grants

- Georgia Institute of Technology - Atlanta, GA
- Illinois Institute of Technology - Chicago, IL

- Iowa State University - Ames, IA
- Lawrence Technological University - Southfield, MI
- Marquette University - Milwaukee, WI
- Massachusetts Institute of Technology - Cambridge, MA
- Milwaukee School of Engineering - Milwaukee, WI
- Montana State University - Bozeman, MT
- Purdue University - West Lafayette, IN
- Rochester Institute of Technology - Rochester, NY
- University of Illinois at Chicago - Chicago, IL
- University of Illinois at Urbana-Champaign - Urbana-Champaign, IL
- University of Minnesota - Minneapolis, MN
- Western Michigan University - Kalamazoo, MI
- Western New England University - Springfield, MA
- Worcester Polytechnic Institute - Worcester, MA

Laboratory Grants

- Milwaukee School of Engineering - Milwaukee, WI
- Western Michigan University - Kalamazoo, MI

Curriculum Grants

- Lawrence Technological University - Southfield, MI
- Ohio University - Athens, OH
- University of Missouri - Columbia, MO
- Western Michigan University - Kalamazoo, MI

TOM WANKE LEGACY CLUB AWARDS

Tom Wanke was a monumental figure in fluid power, active for more than 50 years and influencing generations of fluid power engineers through his work at the Milwaukee School of Engineering, its Fluid Power Institute, and with the National Fluid Power Association.

To honor his memory, and to help ensure that his positive impact on fluid power education continues to be felt, the NFPA Education and Technology Foundation established the Tom Wanke Legacy Fund, which now awards funding to support Fluid Power Clubs around the country.

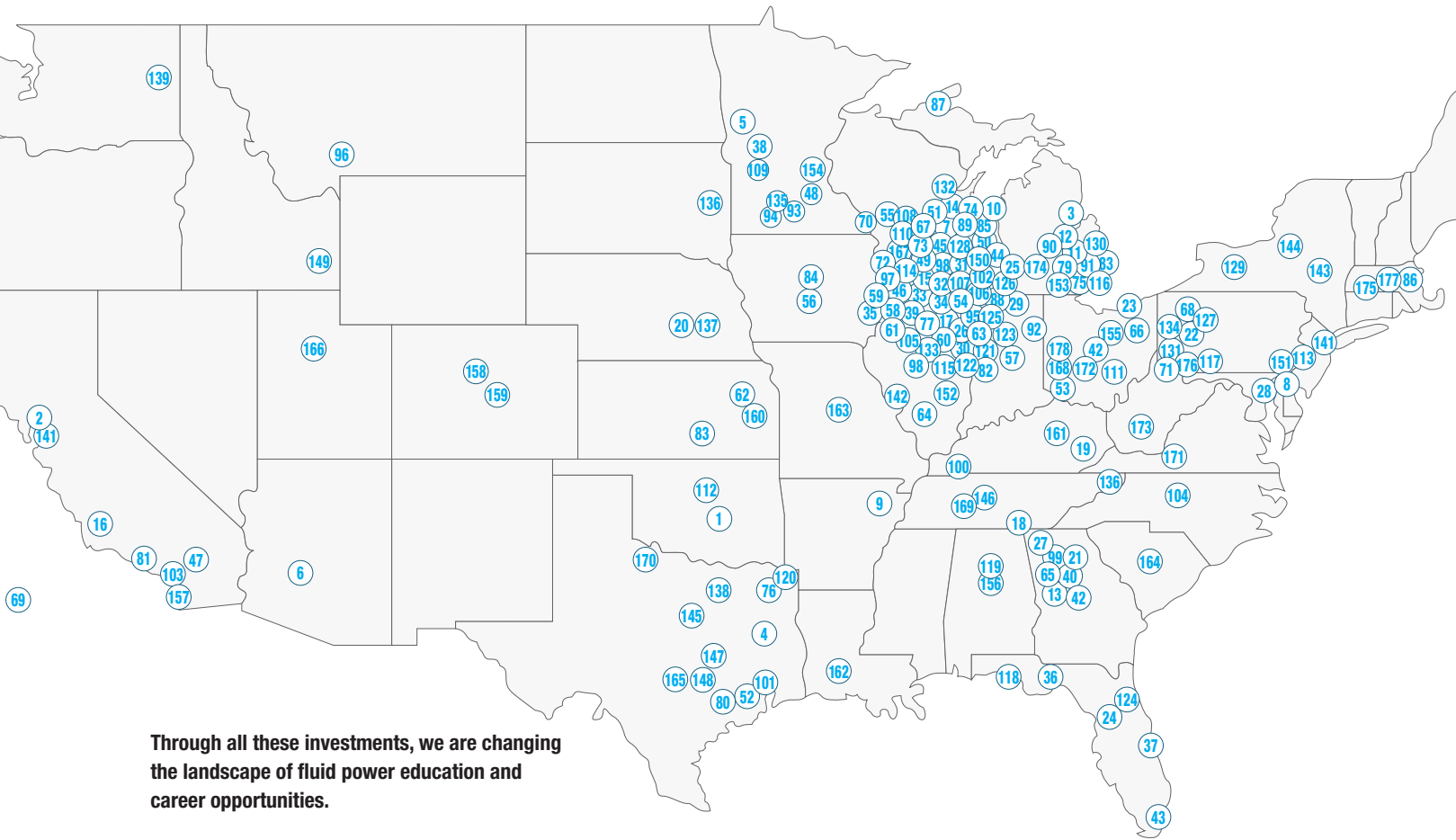
Tom Wanke Legacy Club Awards:

2023 – Milwaukee School of Engineering



IMPACT MAP

The NFPA and the NFPA Foundation has had a tremendous impact on students and schools in communities around the country.



Through all these investments, we are changing the landscape of fluid power education and career opportunities.

KEY: ▲ Action Challenge Events or Grants | ● Fast Track Colleges and High Schools | ◆ Schools Educating Fluid Power Scholarship Recipients
★ Schools Receiving Fluid Power Research or Education Grants | ■ Schools with Fluid Power Clubs or Vehicle Challenge Teams

- | | | |
|---|--|--|
| 1 The Academy of Seminole ▲ | 22 Clarion Area School District M.S. & H.S. ▲ | 40 Georgia Institute of Technology ◆★ |
| 2 American High School ▲ | 23 Cleveland Community College ▲★ | 41 Georgia Tech University ▲ |
| 3 Anchor Bay High School ● | 23 Cleveland State University ■ | 42 Gilead Christian School ▲ |
| 4 Angelina College ★ | 24 College of Central Florida ◆ | 43 Gulliver ▲ |
| 5 Ashby Public Middle School ▲ | 25 Coloma Community Schools ▲ | 44 Cooper Elementary School ▲ |
| 6 Arizona State University ■ | 26 Community Consolidated School District 54 ▲ | 45 Hamilton High School ▲● |
| 7 Arrowhead Union High School ● | 27 Cooper Middle School ▲ | 46 Hampshire High School ▲ |
| 7 Price Engineering ▲ | 28 Crofton High School ▲ | 47 Harvey Mudd College ◆ |
| 8 Avon Grove High School ▲ | 29 Daman Products Company ▲ | 48 Hennepin Technical College ◆★ |
| 9 Arkansas State University ◆ | 30 Deltrol Fluid Products ▲ | 49 Homeschool Nashotah ▲ |
| 10 Bayside Middle School ▲ | 31 Deltrol / SD54 ▲ | 50 Humboldt Park School ▲ |
| 11 Beer Middle School ▲ | 32 Dundee Middle School ▲ | 50 Marquette University ★ |
| 11 Carleton Middle School ▲ | 33 Creekside Middle School ▲ | 50 Maryland Avenue Montessori School ▲ |
| 11 Carter Middle School ▲ | 33 Dura-Bar ▲ | 50 Milwaukee College Prep ▲ |
| 12 Grissom Middle School ▲ | 33 Northwood Middle School ▲ | 50 MSOE ▲◆★■ |
| 13 Bennett Mills Middle School ▲ | 33 St. Mary Catholic School ▲ | 50 South Milwaukee High School ▲ |
| 14 Brookfield Central High School ● | 33 Woodstock Community School District ▲ | 50 University of Wisconsin Milwaukee ◆ |
| 15 Bucher Hydraulics ▲ | 34 Eisenhower Junior High ▲ | 51 Horning Middle School ▲ |
| 16 California Polytechnic State University ◆■ | 35 Eastern Iowa Community College ★ | 51 Husco and Waukesha STEM Academy ▲ |
| 17 Caterpillar ▲ | 36 Florida A&M University ◆ | 51 Waukesha County Technical College ● |
| 18 Chattanooga State TCAT ◆ | 37 Florida Technology Student Association ▲ | 51 Whitman Middle School Wauwatosa ▲ |
| 19 The Challenger Learning Center ▲ | 38 FORCE America ▲ | 52 Hydroquip ▲ |
| 20 Central Community College ★ | 39 Frost Junior High School ▲ | 53 Hydrotech ▲ |
| 21 CircuitRunners Robotics ▲ | 39 Keller Junior High School ▲ | 53 University of Cincinnati ■ |
| | 39 Lincoln Prairie School ▲ | 54 Illinois Institute of Technology ◆★ |

INDUSTRY CONNECTION EVENTS

The Final Step for Power Partners

Industry Connection events bring NFPA member companies to Power Partner universities, virtually or in person, for exclusive networking and recruitment opportunities with students in fluid power degree programs such as Mechanical Engineering, Electrical Engineering, Computer Science and Agricultural Engineering, to name a few. This year, 24 companies have attended industry connection events at some of NFPA's Power Partner universities: Purdue University, the Milwaukee School of Engineering, Murray State University, North Carolina A&T, Iowa State University, and Cleveland State University.



- | | | |
|---|---|---|
| 54 Triton College ▲●★ | 95 Mitchell Middle School ▲ | 136 South Dakota State University ◆★■ |
| 54 STEM Learning Center ▲ | 95 Union Grove High School ▲ | 137 Southeast Community College ◆ |
| 54 Triton Girls Summer Camp ▲ | 96 Montana State University ★ | 138 Southern Methodist University ◆ |
| 54 University of Illinois at Chicago ★ | 97 Montini Middle School ▲ | 139 Spokane Community College ◆ |
| 54 Ridgewood High School ▲● | 98 Moraine Valley Community College ◆ | 140 Stanford University ◆ |
| 55 Innovations STEM Academy ▲ | 99 Morehouse College ◆ | 141 Stevens Institute of Technology ◆ |
| 56 Iowa State ◆★■ | 100 Murray State University ◆★■ | 142 St. Francis/Holy Ghost Catholic M.S. ▲ |
| 57 Ivy Tech Community College ◆★ | 101 National Society of Black Engineers ▲ | 143 SUNY Cobleskill ◆ |
| 58 Jacobs High School ▲ | 102 New Berlin Eisenhower ▲● | 144 SUNY Polytechnic Institute ■ |
| 59 Jane Addams Junior High School ▲ | 102 New Berlin West High School ▲● | 145 Tarleton State University ◆ |
| 60 Jerling Middle School ▲ | 103 Norco College ◆ | 146 Tennessee State University ■ |
| 61 Johnsbury Junior High ▲ | 104 North Carolina Agricultural and Technical State University ★■ | 147 Texas A&M University ◆★■ |
| 62 Johnson County Community College ◆ | 105 North Shore Middle School ▲ | 148 Texas State Technical College ★ |
| 63 J. Sterling Morton West ● | 106 Northern Illinois University ◆■ | 149 Tigert Middle School ▲ |
| 64 Kaskaskia College ★ | 107 Northern Lakes Regional Academy ▲ | 150 Union Ridge Elementary ▲ |
| 65 Kennesaw State University ■ | 108 Oak Prairie Middle School ▲ | 151 Unionville High School ▲ |
| 66 Kent State University ◆ | 109 Osakis Public Schools ▲ | 152 University of Illinois at Urbana ★ |
| 67 Kettle Moraine High School ● | 110 Oconomowoc High School ● | 153 University of Michigan ◆ |
| 68 Komatsu Mining Corp Group ▲ | 110 Stone Bank School ▲ | 154 University of Minnesota ▲★ |
| 69 Ka'ohao Public Charter School ▲ | 111 Ohio University ◆★■ | 155 University of Akron ■ |
| 70 La Crescent High School ▲ | 112 Oklahoma State University ◆ | 156 University of Alabama at Birmingham ■ |
| 71 Lafayette Middle School ▲ | 113 Orchard Friends School ▲ | 157 University of California - Irvine ◆ |
| 72 Lake Country Schools ▲ | 114 Palmyra Eagle Area M.S. & H.S. ▲● | 158 University of Colorado Boulder ◆ |
| 73 Lake Mills Middle School ▲ | 115 Parker Hannifin ▲ | 159 University of Denver ◆■ |
| 74 Lake Shore Middle School ▲ | 116 Peninsular Cylinder Company ▲ | 160 University of Kansas ◆ |
| 74 Mequon School District ▲ | 117 Pennsylvania Small Business Education Fund ▲ | 161 University of Kentucky ★ |
| 75 Lawrence Technological University ★ | 118 Pensacola High School ▲ | 162 University of Louisiana at Lafayette ■ |
| 76 LeTourneau University ◆ | 119 Pinson Valley High School ▲ | 163 University of Missouri ◆★ |
| 77 Leyden East High School ● | 120 PrairieLand ISD High School ▲ | 164 University of South Carolina ◆ |
| 77 Leyden West High School ● | 121 Proviso East High School ● | 165 University of Texas at Austin ◆ |
| 79 Livingston Christian Schools ▲ | 122 Proviso Mathematics and Science Academy ● | 166 University of Utah ■ |
| 80 LoneStar Community College ▲ | 123 Proviso West High School ● | 167 University of Wisconsin - Madison ◆■ |
| 81 Loyola Marymount University ■ | 124 Putnam Academy of Arts and Sciences ▲ | 168 Valley View Junior High School ▲ |
| 81 University of Southern California ◆ | 125 Purdue University ▲★■ | 168 Valley View High School ▲ |
| 82 Maine South ● | 126 Purdue University Northwest ◆★■ | 169 Vanderbilt ★ |
| 83 Macomb Community College ▲●◆★ | 127 Redbank Valley Junior and Senior High School ▲ | 170 Vernon College ★ |
| 83 Maize Career Academy ▲ | 128 Richmond School District ▲ | 171 Virginia Tech ◆ |
| 84 Marshalltown Community College ★ | 129 Rochester Institute of Technology ★ | 172 West Clermont Middle School ▲ |
| 85 Maple Dale School ▲ | 130 Romeo High School ● | 173 West Virginia University Institute of Technology ▲■ |
| 86 Massachusetts Institute of Technology ◆★ | 131 Brentwood Middle School ▲ | 174 Western Michigan University ★■ |
| 87 Master Pneumatic ▲ | 132 Rosedale Technical College ◆ | 175 Western New England University ★ |
| 88 Mead Junior High School ▲ | 132 Sheboygan Central High School ▲ | 176 Wójcisz Supply Company ▲ |
| 89 Menomonee Falls High School ● | 132 George Warriner Middle School ▲ | 177 Worcester Polytechnic Institute ◆★ |
| 90 Michigan State University ◆ | 133 Saratoga Elementary School ▲ | 178 Wright State University ◆ |
| 91 Michigan Technological University ◆★■ | 134 SMC Business Councils ▲ | |
| 92 Micromatic ▲ | 135 South Central College ★ | |
| 93 Minnesota State ◆ | | |
| 94 Minnesota State University Mankato ■ | | |

FLUID POWER VEHICLE CHALLENGE

22 University Teams Apply Fluid Power in Program's Eighth Year



The Fluid Power Vehicle Challenge is a unique design/build competition for undergraduate engineering students, where they are challenged to design and build

a fluid-powered vehicle – a bicycle that relies on a fluid power circuit for its propulsion, with their legs pedaling to serve as the prime mover in that system.

Now in its eighth year under NFPA's management, we had 22 universities across the country participating:

- California Polytechnic State University San Luis Obispo
- Cleveland State University
- Iowa State University
- Kennesaw State University
- Michigan Technological University
- Milwaukee School of Engineering
- Minnesota State University Mankato
- Murray State University
- North Carolina A&T
- Northern Illinois University
- Ohio University
- Purdue Northwest
- Purdue University
- South Dakota State University
- SUNY Polytechnic
- Tennessee State University
- Texas A&M University

- University of Akron
- University of Alabama at Birmingham
- University of Cincinnati
- University of Louisiana at Lafayette
- University of Utah

Our Vehicle Challenge brings hands-on fluid power education to university engineers. And for many of these students, the Challenge is their first real exposure to fluid power systems and components. Year-in and year-out, the Vehicle Challenge succeeds in achieving its key objectives:

- Stimulate education in practical hydraulics, pneumatics, and sustainable energy devices for motion control.
- Provide students with experience in real world engineering under a strict timeline of designing, simulating, ordering, building, testing and demonstrating their designs.
- Stimulate innovative thinking for designing and testing potential new technologies or concepts integrated into a vehicle platform.
- Provide an industry recruitment opportunity for high potential engineering seniors by engaging directly with practitioners in the field.

The program has an impressive track record of connecting those students with companies in the fluid power industry, who have hired them and helped them start careers in fluid power. Crucial support for this year's program was provided by:

Founding Sponsor

- Parker Hannifin

Program Sponsors

- HYDAC
- IFP Motion Solutions
- NORGREN
- SunSource

Product Suppliers

- Brennan Industries
- Danfoss Power Solutions
- Helios Technologies
- Lubrizol
- Source Fluid Power
- Vest

Event Hosts

- Danfoss Power Solutions
- NORGREN

Mentors/Judges

- ACE Controls
- Bosch Rexroth
- Brennan
- Bucher Hydraulics
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- Danfoss Power Solutions
- Deltrol Fluid Products
- Gates
- GPM Controls
- Helios Technologies
- HYDAC
- HydraForce
- Hydro-Gear
- Hydrotech
- IFP Motion Solutions
- JARP Industries
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- Mosey's Production Machinists
- Nachi America
- Norgren
- Nott Company
- Parker Hannifin
- ROSS Controls
- Source Fluid Power
- Sun Hydraulics
- SunSource
- Trelleborg Sealing Solutions



FLUID POWER CLUBS

Connecting Students to Fluid Power Careers

In 2019, we launched our Fluid Power Club program on university campuses to expose a greater number of students to fluid power education and career possibilities. This year, 21 universities have established clubs impacting 202 engineering students across the country. The NFPA Foundation provides annual funding to support these clubs and their activities.

Fluid Power Club Universities

- | | |
|--|--|
| • Cleveland State University | • Purdue University Northwest |
| • Iowa State University | • South Dakota State University |
| • Kennesaw State University | • Tennessee State University |
| • Loyola Marymount University | • Texas A&M University |
| • Michigan Technological University | • University of Alabama at Birmingham |
| • Milwaukee School of Engineering | • University of Cincinnati |
| • Murray State University | • University of Louisiana at Lafayette |
| • North Carolina Agricultural and Technical State University | • University of Utah |
| • Northern Illinois University | • University of Wisconsin Madison |
| • Ohio University | • Western Michigan University |
| • Purdue University | |

Students have been organizing fluid power study groups and social events, launching student job fairs and resume building workshops, collaboration with Vehicle Challenge students and inviting industry professionals to speak with them about career opportunities in fluid power.



THE PASCAL SOCIETY

The Pascal Society is the NFPA Foundation's annual giving society that has raised millions of dollars for fluid power outreach, education, and recruitment programs. Pascal Society funds support the full range of Foundation programs highlighted in this report.

To maintain membership in the Pascal Society, a donor must annually contribute an amount at least equal to 50% of their NFPA dues. Pascal Society donors combine their financial and volunteer contributions in one concerted effort, developing the resources, tools, and people needed to meet the future technology and workforce needs of the U.S. fluid power industry.

Pascal Society Donors as of June 30, 2024

- Alro Steel
- Applied Industrial Technologies
- ARGO-HYTOS
- Bosch Rexroth Corporation
- Bucher Hydraulics
- Cadenas PARTsolutions
- Caterpillar
- Comer Industries
- Custom Hydraulics & Design
- Danfoss Power Solutions
- Delta Computer Systems
- Deltrol Fluid Products
- Engineering Technology Services
- Fluidyne Fluid Power
- FORCE America
- GPM Controls
- HAWE Hydraulik
- Helios Technologies
- Husco
- HYDAC/Schroeder Industries
- Hydra-Power Systems
- Hydraulex Global
- IC-Fluid Power
- ifm efector
- IFP Motion Solutions
- Industrial Hard Chrome
- KYB Americas
- Linde Hydraulics Corporation
- Main Manufacturing Products
- Marmon/Keystone
- MHA Zentgraf Corporation
- Micromatic
- Moog
- Mosey's Production Machinists
- National Tube Supply
- NORGREN
- Nott Company
- OEM Controls
- Parker Hannifin Corporation
- Poclain Hydraulics
- QCC
- QP Hydraulics
- ROSS Controls
- Stauff Corporation
- SunSource
- Trelleborg Sealing Solutions
- Yates Industries



LEGACY BUILDERS

The NFPA Education and Technology Foundation extends gratitude to the many generous donors who share our mission of meeting the workforce development needs of the U.S. fluid power industry. The following organizations have achieved Legacy Builder status—cumulative giving of \$25,000 or more—as of our last recognition year, ending April 30, 2024.

CLASS OF 2024

- Micromatic
- Stauff Corporation
- Walvoil Fluid Power

CLASS OF 2023

- Alro Steel Corporation
- Applied Industrial Technologies
- Industrial Hard Chrome

CLASS OF 2022

- Hydraforce

CLASS OF 2020

- Daman Products Company
- Kawasaki Precision Machinery
- Muncie Power Products, Inc.
- NORGREN & Bimba
- SunSource

CLASS OF 2019

- Clippard Instrument Laboratory
- Festo
- Hitachi
- Iowa Fluid Power
- OEM Controls
- Trelleborg Sealing Solutions

CLASS OF 2018

- FORCE America
- Husco
- International Fluid Power Society
- QCC

CLASS OF 2017

- Linde Hydraulics
- Lubrizol
- Proportion Air
- Woodward

CLASS OF 2016

- Afton Chemical Corporation
- Bobcat Company
- Chevron
- Donaldson Company
- Evonik Oil Additives USA
- ExxonMobil
- HYDAC / Schroeder Industries
- Hydra-Power Systems
- Hydraquip
- Netshape Technologies
- Poclain Hydraulics

CLASS OF 2015

- CNH Industrial
- Pall Corporation
- Moog, Inc.

CLASS OF 2014

- Danfoss Power Solutions
- Eaton
- Gates Corporation
- ROSS Controls

CLASS OF 2013

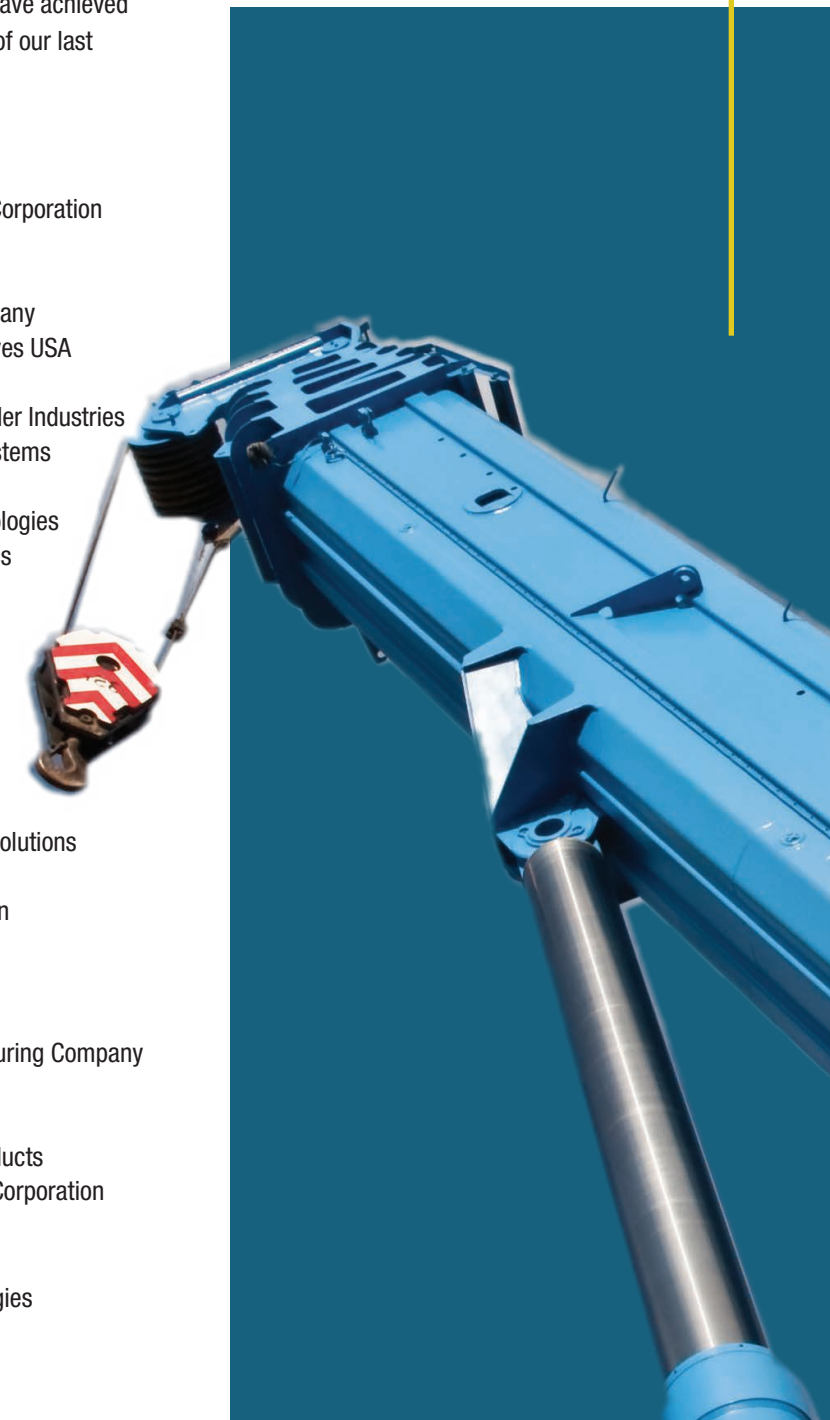
- Bimba Manufacturing Company
- Bosch Rexroth
- Caterpillar
- Deltrol Fluid Products
- Parker Hannifin Corporation

CLASS OF 2012

- Enfield Technologies

CLASS OF 2010

- Sun Hydraulics



THANK YOU DONORS

The NFPA Education and Technology Foundation extends gratitude to the many generous donors who share our mission of meeting the workforce development needs of the U.S. fluid power industry.

The following individuals and organizations have made a donation in our last recognition year—between May 1, 2023 and April 30, 2024.



ORGANIZATIONS

- Adams Air & Hydraulics
- Aladco
- Alfa Laval
- Alro Steel Corporation
- AMETEK APT
- Applied Industrial Technologies
- ArcelorMittal Tubular Products
- ARGO-HYTOS
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- Brand Hydraulics
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- Casappa Corporation
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- Charter Dura-Bar
- CIM-TEK Filtration
- Comer Industries
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- Custom Hydraulics and Design
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- FluidDyne Fluid Power Corporation
- FORCE America
- G. W. Lisk Company
- GPM Controls
- HAWE Hydraulik
- Helios Technologies
- Hercules Sealing Products
- Husco
- HYDAC/Schroeder Industries
- Hydra-Power Systems
- Hydralex Global
- Hydro Electronic Devices (HED)
- Hydro Extrusion North America
- IC-Fluid Power
- ifm efector
- IFP Motion Solutions
- Industrial Hard Chrome
- International Fluid Power Society
- JEM Technical Marketing Company
- Kepner Products Company
- Kraft Fluid Systems
- KYB Americas Corporation
- KYKLO
- Leggett & Platt Hydraulics
- Lexair
- Linde Hydraulics Corporation

- Main Manufacturing Products
- Marmon/Keystone
- MFP Seals
- MHA Zentgraf Corporation
- Micromatic
- Moog
- Moseys Production Machinists
- Motion & Flow Control Products
- MP Filtri
- MTE Hydraulics
- National Tube Supply Company
- Niagara LaSalle Corporation
- NORGREN
- Noshok
- Nott Company
- OEM Controls
- OEM Off-Highway Magazine
- OPS Controls
- Paquin Company
- Parker Hannifin Corporation
- Plymouth Tube Company
- Poclain Hydraulics
- Power Systems Florida
- QCC
- QP Hydraulics
- R & J Cylinder & Machine
- ROSS Controls
- Salesforce
- Scanreco
- Scott Industrial Systems
- Service Center Metals
- Sharon Tube Division of Zekelman Industries
- Singer Industrial

- SPX Hydraulic Technologies
- Stauff Corporation
- SunSource
- TraceParts
- Trelleborg Sealing Solutions
- Ultra Clean Technologies Corporation
- Vis Hydraulics North America
- Walvoil Fluid Power
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INDIVIDUALS

- Biederman, Bernhard
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- Kamara, Sheku
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