This three day event, in conjunction with the D16 committee, will feature industry leaders in manufacturing presenting real-world innovations used to make their automation projects successful. This event will benefit the company researching automation in a new application, and those using automation successfully and working to stay current with new technologies, or working to overcome challenges in automation. This conference will include a tour of Joy Global’s nontraditional robotic application, as well as a tour of Mayville Engineering’s many robotic installations operating within a Lean Manufacturing environment. Professional Development Hours (PDHs) will be given. Proceeds go to the John F. Hinrichs Memorial Endowment, which provides scholarships for students in welding and engineering.

Sponsored by the American Welding Society D16 Committee, AWS Milwaukee Section, FMA, Joy Global, Mayville Engineering Company and MATC. If you are interested in exhibiting, registering or learning more about this event, please email: Karen.gilgenbach@airgas.com, Phone: 262-613-3790, Or visit: http://sections.aws.org/milwaukee/
Overcoming Obstacles to Automation through Innovation

Miller invites you to join us for demonstrations of automation technology and welding processes at our corporate headquarters in Appleton, WI on June 3, 2013. Participate in a tour of our facility and see how people make a difference every day in the production of industry leading welding equipment. Watch Miller Welding Automation, Motoman, Fanuc and ABB robotic systems in action.

Join us for dinner and conversations with experts from across the welding industry. Miller will provide transportation from Milwaukee to Appleton.

12:00 p.m.–12:30 p.m. Bus loading at the Hotel & Conference Center
12:30 p.m.–2:30 p.m. Travel time to Miller Facilities, Appleton/Greenville
2:30 p.m.–6:00 p.m. Tour of Miller Manufacturing Facilities, demonstrations with Miller Welding Automation, Motoman, ABB and Fanuc robots. Appetizers served.
  • Welding processes on heavy plate.
  • Metal core wire and applications in key industrial segments.
  • Controlled welding processes for thin gauge applications.
  • Integrated gun solutions and accessories for welding robots.
  • Arc Data Monitoring and Production network controls in welding equipment.
  • Tours of Miller Electric Manufacturing areas.
  • Discussions and interactions with Miller employees who make a difference.
6:00 p.m.–7:00 p.m. Dinner and presentations.
7:30 p.m.– 9:30 p.m. Bus ride back to Milwaukee with additional refreshments.
9:30 p.m. Arrival at Hotel & Conference Center

Miller Facility Tour
June 3, 2013
Appleton, WI
www.MillerWelds.com
National Robotic Welding Conference & Exhibition 2013

People Make the Difference
Recipes for Robotic Arc Welding Success

Sponsored by the
American Welding Society Milwaukee Section,
AWS D16 Committee, Joy Global, Mayville Engineering Company
Milwaukee Area Technical College, FMA
June 4th and 5th
Milwaukee, Wisconsin

This two day event, with a third bonus day tour leading up to the conference on June 3rd sponsored by Miller Electric and Miller Welding Automation, is meant to benefit anyone considering the use of robots in arc welding applications, or currently using robots and looking to expand or optimize their use. A unique aspect of this conference is the tours, including a tour of a very nontraditional application at Joy Global (formerly P & H Mining) for large parts and very short runs. There will also be a tour of Mayville Engineering Company, which has 26 arc welding robots employed in a lean manufacturing atmosphere. With the training needs of the industry and the attrition of many skilled welding personnel through retirement, this conference has a focus on people making the difference, even in automated applications. This conference was started by John F Hinrichs, and funds the John F Hinrichs Memorial Endowment through the AWS Foundation, which provides scholarships to students in Welding and Engineering.

The conference, tour and exhibition will feature the latest technologies and manufacturing practices to insure success in these applications, as well as discuss what skills and personnel make these applications successful. These technologies should also be of value to companies utilizing arc welding robots in traditional and nontraditional applications.

The conference segment of the program focuses on end users who have overcome hurdles and worked through often unique applications. Also included will be professional speakers from a variety of backgrounds, as well as time to talk to exhibitors from companies that offer support with regard to many of the technologies discussed. The program matter is meant to be inclusive and benefit the most experienced welding engineer or specialist as well as the less technically experienced or novice user or buyer. The program will also benefit other parties interested in learning more about these processes.

As a special feature our keynote speaker will be Jennifer McNelly, President of the Manufacturing Institute, which focuses on government relationships in Washington DC. The Manufacturing Institute has an interest in a skilled workforce to position American manufacturers with a competitive advantage in the 21st century global economy. As a skilled workforce and welder shortages are drivers in the future of automation, Jennifer McNelly is uniquely qualified to provide a forward view.

Professional Development Hours will be awarded to attendees, as well as a certificate of completion.

If you are interested in exhibiting, registering, or learning more about this event, please contact Karen Gilgenbach, at 262-613-3790, or Karen.gilgenbach@airgas.com
HOTEL REGISTRATION:
For Reservations call 414-481-2400
Or toll free 866-481-2400.

Clarion Hotel & Conference Center
5311 South Howell Avenue
Milwaukee, WI 53207

Room Rates for attendees:
$89.00 for Queen sized bed or two queens
$105 for King

The Clarion Hotel is easily accessible off Interstate 94/894 at the airport exit and we offer complimentary shuttle to and from the airport 24/7 on demand. Our hotel is directly across the street from the airport.

The hotel offers an on-site restaurant and lounge, room service, full service gym, business center and indoor pool. All of the guest rooms have microwaves and refrigerators, coffee makers, hair dryers and ironing boards and irons. High speed wireless internet is available throughout the hotel for no charge.

The hotel is minutes from several golf courses, and is close to many popular area attractions, including the Boerner Botanical Gardens, the Bradley Center arena, Lake Michigan, the Miller Brewing Company and the Milwaukee County Zoo. There are a variety of restaurants and cocktail lounges located in the area. Be sure to visit the on-site Cork ‘N Cleaver Restaurant and enjoy daily gourmet specials, a selection of wines, Friday Fish Fry and Sunday Brunch. The restaurant also provides room service with extensive menu selections.

Milwaukee Area Technical College’s ECAM Center:

Milwaukee Area Technical College is a co-sponsor of the National Robotic Arc Welding Conference. Segments of the event will take place at the Center for Energy Conservation and Advanced Manufacturing. This new, $9 million, 34,000 square-foot applied technology center at the MATC Oak Creek Campus is designed to answer the competitive challenges facing manufacturers.
June 4th, 2013, Hosted by Mayville Engineering Company

Option 1:

7:15 Meeting at the Clarion hotel to travel to Mayville Engineering
Buses will load at Clarion Hotel & Conference Center, 5311 South Howell Avenue Milwaukee, WI 53207.

A light breakfast will be served on the busses

8:45-9:00 Welcome at Mayville Engineering Company

9:00-12:00 Mayville Engineering Company Tour and Presentation
The time at Mayville Engineering Company will break attendees into smaller groups to provide a focus on specific strengths in the manufacturing environment. Each group will cycle through various learning and tour environments, with focuses to include: large automation for short run jobs, offline programming, incorporating robots in a lean environment and small parts, large volume. Mayville engineering Company uses a synergistic process that starts with a customer’s CAD drawing and simulates reach and tooling. MEC employs the latest technology from project conception through successful delivery.

12:00-12:15 Busses Load

Option 2:

8:00-10:00 Live Robotic Demonstrations and Exhibits
View a variety of welding robots and exhibits. Spend time to better understand a variety of teach pendants, systems configurations, and safety. Exhibits include a CRAW-T cell

10:15-11:30 Educator’s Forum
This special feature is an educator’s forum, for those responsible for creating the next generation of skilled robotic and welding professionals. Forum will be hosted by Vern Mangold. Additional educators will be able to participate through MATC’s telecommunications center.

11:45-12:15 Welding Fast
Heath Suraba, Lincoln Electric Automation Group, Cleveland, OH
This presentation will focus on ways to improve welding speed by changing processes, parameters, and part geometry, causing reduced cycletimes and increased productivity.

12:15-1:00 Lunch

All Attendees:

1:00-2:15 Exhibits Viewing at MATC

2:15-2:50 Robotic Welding and Practical Lean: Stacking the Deck in Your Favor
Rich Kallage, Principal KDC & Associates, Ltd., Barrington, IL
Robotic welding is rapidly evolving from its roots in high volume, low mix operations to becoming a game changer in high mix operations as well. The focus will be on the critical metrics of actual productive uptime and cycle time and how to improve them via Practical Lean Tools.

2:50-3:25  Recent Developments in Robotic Plasma Cutting Technology
Jim Colt, Applications Technology Manager, Hypertherm Inc., Hanover, NH
The plasma process has come a long way over the past 20 years with major developments in consumable life, cut speed, cut quality and system integration. New technology as well as new equipment and processes well suited for robotics will be highlighted.

3:25- 3:35  Break

3:35 -4:10  Considerations for Robotic Success in New Installations
Steve Massey, Engineering Manager, Edison Welding Institute, Columbus, OH
Things to consider when moving to welding automation are varied, and require at a minimum, consideration of part fit-up requirements, robotic options to deal with part inconsistencies, fixturing and access requirements, basic maintenance issues – common problems and Robotic programming/operating personnel selection and training.

4:10 – 4:30  AWS D16 Robotic & Automatic Welding Committee Update - Robotic Arc Welding Safety Requirements & Certified Robotic Arc Welding Technician (CRAW-T)
Jeffrey Noruk, President, Servo Robot Corp., Milwaukee, WI
Vern Mangold, President, KaySafety, Centerville, OH
Update on the activities of the AWS D16 committee with a focus on the new CRAW-T training manual being developed to increase the success rate for test takers and the status of the new ISO safety document in process of approval by the RIA members and the effects it could have on the robotic arc welding industry

4:30 -5:30  Exhibits at MATC, with Hors D’oeuvres, and Business Networking
Also invited will be the local AWS Milwaukee Section Members

5:15-5:45  Hotel Shuttle busses back to hotel for Dinner

6:10- 6:15  Jeff Noruk, Conference Co-Chair, to Introduce Doug Rhoda

6:15-6:30  Doug Rhoda, CEO of Wolf Robotics, will give a speech on the influence John F Hinrichs had on his Career and in the Automated Welding Industry in General

6:30- 6:35  Karen Gilgenbach, Conference Co-Chair, to Introduce Jennifer McNelly

6:35- 7:15  Keynote Speaker, Jennifer McNelly
As a special feature our keynote speaker will be Jennifer McNelly, President of the Manufacturing Institute, which focuses on government relationships, in
Washington DC. The Manufacturing Institute has an interest in a skilled workforce, positioning American manufacturers with a competitive advantage in the 21st century global economy. As a skilled workforce, and welder shortages are drivers in the future of automation, Jennifer McNelly is uniquely qualified to provide a forward view.

7:15-8:10  Dinner at the Clarion

8:10-8:20  Todd Hansen, D16 Awards Chair, to Present- AWS D16 Committee Excellence in Robotics Award

8:20-8:35  Thank You to Mayville Engineering Company and Joy Global

8:35-8:55  Scholarships Awarded to John F Hinrichs Memorial Endowment Scholarship Recipients
Because of the support of the attendees, exhibitors and presenters, scholarships are being award to four Weld Engineering Students. We are truly grateful for the support that makes this endowment possible.
June 5th, 2013: Hosted by Milwaukee Area Technical College and Joy Global

7:00 – 7:30  Exhibit viewing at MATC:
This is a unique opportunity to see robotic demonstrations, and talk to industry leaders about their technologies, and how they may apply in your particular application.

7:45 – 8:15  Welcome, Breakfast Service with Healthy Options

8:15 – 8:50  Training Tomorrow’s Workforce Today
*Rick Maroney, Project Manager, AIDT-RTP, Tanner Alabama*
Our vision is for the RTP to maximize workforce productivity and global business competitiveness through innovative solutions in robotics and automation. Learn how to fulfill this vision while providing a skill specific education and training experience that will assist employee/student advancement at all levels.

8:50 – 9:25  A Project Approach to the Successful Implementation of Robotic Welding Cells
*Joe Lane, Continuous Improvement Manager- DS Manufacturing, Black River Falls, WI*
The best and most sophisticated robotic arc welding equipment will not make your welding cell a implementation a success. It’s the people that make it a success. Learn about the project approach D&S Manufacturing utilizes to engage employees in all aspects of the implementation and learn about the rewards it can bring and the challenges along the way.

9:25 – 10:00  Transition to automation, easy decision. Adding weld robotic automation to your operation.
*Chris Boycks, Director of Quality & Process Improvement & Joe Dengel, Robotic Specialist, Jay Manufacturing, Oshkosh, WI*
This presentation will provide insight into the realization, integration, advantages and ease of owning robotic arc welding.

10:00 – 10:30  Break, Exhibit Viewing

10:30 – 11:05  High Mix, Low Volume Robotic Welding Integration
*Jay Haynes, Regional Manager, Wolf Robotics, LLC, Fort Collins, CO*
How integration experience and equipment technology contribute to a successful robotics system installation. Facing challenges, providing solutions and managing operations are explored in a typical case study of a project that involved assorted configurations of large parts in small quantities not previously considered for automation.

11:05 – 11:40  Lean …Large … and Automated
*Scott Beary- Project Lead, Vermeer, Pella, IA*
Utilizing unique project management to implement automation into Vermeer’s largest/heaviest manufactured part. Vermeer’s new challenge is to bring the benefits of robotic automation and new technologies into facilities that produce large high value parts while maintaining a low volume lean environment.
11:40 – 12:15  **Materials Joining – Black Belt Style**  
It takes more than a village to deliver a successful automated welding product to the industry. It takes a collaboration of the upfront product design, part forming analysis, fixture design and robotic system design personnel to bring the product to market balancing costs, quality and delivery timing.

12:15-1:00  Lunch and Exhibit Viewing

1:00- 1:30  Presentation from Joy Global

1:30- 1:40  Loading Busses

**Option 1:**

1:40-2:00  Bus ride to Joy Global

2:00- 2:10  Welcome at Joy Global

2:10- 4:30  **Joy Global Tour and Presentation**  
The Joy Global Tour and presentation will feature the Small Component Value Stream and Welding Lab facilities. The Small Component Automation Cell is capable of welding 24 different weldments ranging in size from 6,000 -25,000 lbs.

The Small Component Value Stream tour will consist of viewing the Automation Fit & Tack Facility, Automation Set Up Facility and the Automation Welding Cell. The tour of the Welding Lab will feature the Welding Automation Training and Developmental Cell and the Welder Testing and Training Facility.

4:30 – 4:45  Wrap-up, Evaluation

4:45  Bus ride back to hotel
Option 2:

**1:45 – 2:15** Understanding the Importance of Tool Center Point (TCP)
*Andrew Valentine - Leoni Engineering Products & Services, Lake Orion MI*

The importance of the TCP cannot be understated because it forms the basis for achieving repeatable weld wire position which is required to produce at optimum productivity and quality. In addition, an accurate and repeatable TCP is also required when the robotic arc welding application requires sensors and other end of arm tooling be used and have a relationship to the weld wire position.

**2:20 – 2:55** Integrating Robotic Arc Welding Equipment
*Joshua Williamson - Fronius Welding Technology Division, Brighton MI*

The interface from the robot to the welding power source has been around in some form since the first time someone tried hooking up a robot to a manual welding machine which dates at least back to the 1970’s. A lot has changed since then to allow for much more seamless and efficient interfacing but knowing what has transpired in the past will help one understand the options available today and better plan for the future.

**3:00 – 5:00** Live CRAW Competition and Exhibits

Watch live CRAW competitions which will streamed to viewers all around the world.

View a variety of welding robots and exhibits. Spend time to better understand a variety of teach pendants, systems configurations, and safety. Exhibits include a CRAW-T cell.

**5:00 – 5:15** Wrap-up, Evaluation

Thank you for your support of the NRAWC 2013, and the John F Hinrichs Memorial Endowment!
National Robotic Arc Welding Conference & Exhibition 2013
Registration / Fees:

**Payments may be made online at** [http://sections.aws.org/milwaukee/](http://sections.aws.org/milwaukee/) **or mailed in. Email to karen.gilgenbach@airgas.com**

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**Dinner Choice (circle one):** Chicken, Pork, Vegetarian, Beef

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<th>Plan to attend Joy Global tour?</th>
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**Once tours are full, attendees can register for the conference without tours for a $100 discount (Option 2).**

*While we do our best to accommodate all attendees, our tour locations have to option to exclude competitors. If there is an issue with your attendance on a tour you will be contacted.*

**Signature:** ____________________________________________

Special Considerations: In accordance with the Americans with disabilities act (ADA) we strive to accommodate any additional needs. Please contact us at 1-262-613-3790 for further information or to make us aware of a possible concern

Form may be printed and mailed with payment to: AWS- Milwaukee Section C/O Karen Gilgenbach, Airgas, Inc 11927 West Silver Spring Dr, Milwaukee, WI 53225
Robotic Welding Conference History:

Celebrating the conference’s 30th year!

The conference was started by John Hinrichs of AO Smith Corporation through a partnership with the University of Wisconsin-Milwaukee and its Continuing Education Program in 1983. This year marks the 30th anniversary of the conference. The mission of the conference was to present new and emerging technology in the areas of welding and automation. The conference was unique in that it did not have a call for papers but instead was an invited list based on what technologies were viewed as being cutting edge at the time. The conference prospered for many years in downtown Milwaukee but in 1992 the attendance was starting to decline (can you spell Milwaukee in February?) and the decision was made to move to Florida.

This change in venue to Orlando was done in conjunction with the American Welding Society (AWS) and with the addition of Paul Ramsey (former AO Smith Welding Research Manager and AWS President) as Co-Chairman. The next few years the emphasis was placed even more on introducing very new technologies as evidenced by the first presentation in North America about Friction Stir Welding at the 1994 conference. In 1997 a partnership was formed with the AWS D16 Committee on Robotic and Automatic Arc Welding to assist in the running of the conference and highlighting the work being done by this group in the areas of standards. The name of the event was changed to the AWS 1st Robotic Arc Welding Conference and Exhibition.

In 1999 Jeffrey Noruk, D16 Chairman, joined John and Paul as a co-chairmen and continued to strengthen the relationship with the D16 committee via the presentation of educational material associated with standards on Safety, Do’s and Don’ts, Qualification and Certification of Personnel and Robotic Equipment Interfacing.

In 2005 we came full circle with the conference moving back to Milwaukee, but this time in conjunction with the local AWS Milwaukee Section and the Milwaukee Area Technical College. This conference has been held every other year (the “odd years”), and is modeled after the highly successful Detroit Sheet Metal Conference which is held in “even years”.

In 2012 our friend and mentor, John F Hinrichs, passed away. The proceeds from the 2005, 2007, 2009 and 2011 started the John F Hinrichs Memorial Endowment through the AWS Foundation, which is funded to provide almost $8,000 annually in the form of scholarships to students in areas of Welding and Engineering.

Profits from this conference will go towards the John F Hinrichs Memorial Endowment. The format of a conference and exhibition will be maintained as well as the close ties to the AWS D16 committee.