May Technical Meeting
Thursday, May 10, 2018
A Presentation & Tour By

Our speaker, Chris Conrardy, will be giving an overview of the Lift Technology Institute, discussing the Manufacturing USA network of Institutes, the benefits of membership and our in-house capabilities.

Chris Conrardy, Interim Executive Director, LIFT
Chief Technology Officer and Vice President for Strategic Initiatives, EWI

Chris Conrardy is the interim Executive Director of LIFT. To join LIFT, Mr. Conrardy has taken a hiatus from his decade-long role as Chief Technology Officer and Vice President for Strategic Initiatives at EWI. Mr. Conrardy serves on multiple boards of start-up companies and university centers. Prior to joining EWI, he was a partner in a technology start-up company which develops software products for manufacturing automation, process monitoring, and quality tracking applications. He also worked as a researcher in a corporate R&D center for a company that built systems for the nuclear/fossil power generation and off-shore oil industries. Mr. Conrardy holds BS and MS degrees in Welding Engineering from Ohio State University and has over 50 technical publications, presentations, awards, and patents.

For more information about Lift Technology, please visit their website at lift.technology/

AGENDA
5:30 - 6:00 pm
Welcome Reception & Networking
6:00 - 6:15 pm
Opening Remarks
6:15 - 6:45 pm
Dinner
6:45 - 8:15 pm
Presentation/Tour by Lift Technology

Email or phone RSVP by May 5 to Amanda Davis: (248) 512-1803 or amanda.davis@fcagroup.com
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Wes Doneth
Chairman’s Message

Hopefully when you are reading this the snow and ice have finally stopped – April what a month. The year is coming to a close for us, the election results are in and a new Chairman will take the helm in June. The 2017-18 season saw its ups and downs, we accomplished a major goal and lead the nation with the first Section sponsored grant program that will directly affect local education programs in a positive way. We struggled to maintain our Technical meetings the market seems to be changing and the once popular technical programs are now difficult to lock in and achieve high attendance. The 78th Annual Ladies Night was a success! We sold out our tables and had a great group of special guests ranging from President - Dale Flood, CEO - Matt Miller, Foundation Executive Director – Monica Pfarr to Ray Roberts who was awarded WEMCO Excellence in Welding and Glenn Knight for National Meritorious Award. I am proud of our accomplishments this year but there are areas we want to improve and grow as a section. We need feedback from our 1000+ members in our section your input is needed to get us pointed in the direction you want us to go. During the visit of our leadership from AWS national we had a workshop to discuss the future of the section focusing on positive points and areas of improvement. I was very encouraged by our new CEO’s interaction and willingness to hear our needs at the section level. If any of you have comments about your AWS experience, I would like to hear about it and would pass it along to the National team so they hear from the membership.

I would like to thank all the mentors and colleagues on the Executive Committee. It is a great committed group of people and all of the activities would not be possible without their long hours and help of their employers and companies. Have a great summer, enjoy the sunshine (assuming the snow has stopped) and we look forward to Dr. Mark Gugel taking the helm in June and having a successful 2018-19 season.

Best wishes – Wes Doneth – See you at the Golf Outing!

doneth.wesley@fronius.com / 810-844-2800

Coming Events Calendar – May through July 2018

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<td>Service and Section Awards (a.k.a. Old Timers)</td>
<td>AWS Detroit</td>
<td>Lift Technology Detroit, MI</td>
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<td>May 11</td>
<td>AWS Detroit High School Welding Contest</td>
<td>AWS Detroit</td>
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<td>May 16</td>
<td>Great Ideas in Steel</td>
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<td>May 23-24</td>
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<td>June 3-8</td>
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<td>June 9</td>
<td>AWS CWI Exam</td>
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<td>June 12-14</td>
<td>FabTech Canada</td>
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<td>June 13</td>
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Amanda Davis
“Section Appreciation Award”
Amanda is originally from Pinconning, Michigan. She started her welding career as a Delta Community College grad working as a welder/fabricator building aluminum radiators for show cars. In 2010 she finished her bachelor’s degree from Ferris State University and upon graduation she took a job MEC Inc. acting as corporate welding engineer overseeing new launches at sixteen different facilities. Amanda currently works for FCA US LLC as a welding engineer in the Metallic Materials Engineering Group overseeing arc welding specifications, certifying filler material selection for global approval and investigating issues with welded assemblies.

Amanda has been an AWS member for 10 years. In 2016 she was elected to the Detroit Section Executive Committee. In 2016/2017 she aptly handled hotline items for the electronic bulletin and in 2017/2018 she transitioned into the Patrons role helping to collect over $8,500 in Patrons funds. As one of the young and more recent additions to the Executive board, Amanda has transitioned to the culture of the section well, has dedicated her time and continues to help the section thrive as one of the Nations more successful sections. Congratulations Amanda!

Donnie Crist
“Section Appreciation Award”
Donnie holds a Bachelor’s degree in Welding Engineering Technology from Ferris State University and began his career in the automotive sector in 2002. Donnie spent 13 years providing welding consulting

Continued on page 12
**Women Who Weld Update**

Women Who Weld is holding an ‘Intro to MIG Welding Workshop’ for women on Saturday, May 12, 2018 from 12pm - 4pm at Maker Works in Ann Arbor, MI!

Women Who Weld is a 501(c)(3) nonprofit organization that teaches women how to weld and find employment in the welding industry.

The cost to participate in the workshop is $100 per person and is limited to 12 participants. Proceeds from this workshop will go toward Women Who Weld’s subsidized, 6-week intensive welding training program for unemployed and underemployed women in Detroit, MI.

Here is the registration link for the workshop:


**New Products!**

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View & Check 3D Profiling Details with Free HGG Software

Medina, OH... HGG just released new HGG ProCAM Lite™ Software free of charge. Available for manufacturers and fabricators, HGG ProCAM Lite is the first software that enables users to view as well as check 3D cutting details on pipes, beams and bulks prior to cutting. Neither HGG cutting machinery nor any cutting machine is required for users to benefit from this new software to improve cutting productivity. To get a free copy of ProCAM Lite software click: www.hgg-group.com/hgg-procam-lite/

HGG ProCAM Lite software currently consists of two program parts, a DSTV viewer and a pipe viewer. The software enables users to perform final production data checks without the need for a machine and without having to purchase viewing software. Users can review any DSTV, NC, XML or PCD file, viewing all parameters and weld details, including root openings and markings prior to cutting and production. With ProCAM Lite software, users will be better able to take control over their cutting designs while also improving their workflow, from detailing through production.

HGG ProCAM Lite software incorporates unique interactive measuring tools for visualizing and validating 3D NC data, reducing cutting errors and providing material savings. Because HGG was the initial developer of the XML PCD file format, HGG ProCAM Lite software is especially beneficial for viewing tubular Tekla structures and tubular connections. The software also includes a new “scribing” feature, which enables users to view the positions of welded parts on the main structure. According to Tekla’s Michael Hodgson, “With HGG ProCAM Lite, anyone involved in a project can view any DSTV data or pipe cutting data created in Tekla before it’s cut and manufactured.”

HGG, headquartered in Wieringerwerf, Netherlands, is a leading supplier of pipe cutting machines, robotic profile cutting lines and associated cutting equipment solutions around the world. HGG maintains subsidiaries in the Philippines, China, India, the Middle East, and most recently in the United States.

HGG Profiling Equipment, an HGG subsidiary located in Medina, Ohio, provides comprehensive services and sales and support for the company’s growing customer base in North America, Central America and South America. HGG Profiling Equipment serves an array of industry customers in Construction, Piping Process Industries, Offshore/Onshore, Crane Building, Ship Building and others.

For more information about HGG and ProCAM Lite Software, contact John Tutino at HGG Profiling Equipment/ 3977 Rivendale Drive, Medina, OH 44256/ Tel: 1-330-461-6835/ Email: jt@hgg-group.com/

**Personnel in the News!**

**T.J. Snow’s Matt Post elected RWMA Chairman**

Matt Post has been elected Chairman of the Resistance Welding Manufacturing Alliance (RWMA), a standing committee of the American Welding Society (AWS).

With membership located throughout the United States and several foreign countries, the RWMA promotes the use of the resistance welding process.

Also, RWMA members assist other AWS committees in setting resistance welding standards for the industry.

In addition, RWMA members are participating in a task group to develop a new AWS certification for resistance welding technicians.

Post, who is an industry veteran, is a Regional Sales Manager for T.J. Snow Company.

He will serve as RWMA Chairman for two years.

**AWS Detroit Section Sets Charity Golf Outing for July 19th**

By Donnie Crist

The AWS Detroit Section will hold its annual golf outing on July 19, 2018 at Cherry Creek golf course located at 52000 Cherry Creek Drive, Shelby Township, MI. The cost is $150 per golfer or $600 per foursome and includes driving range balls, hot dog on the turn, dinner, and all contests. Great prizes will be raffled away during the dinner.

Please come join us for day of fun and golf for a great cause. All proceeds are to benefit grant and educational initiatives. Registration and sponsorship opportunities are available on the AWS Detroit Section website https://awsdetroit11.wufoo.com/forms/x1ckswia12xkgyr/ If you have any questions or hole sponsorship inquiries, please contact Donnie Crist dcrist@romanmfg.com.
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Setting priorities for the things we need to accomplish is something we all do every day. I don’t mean as a CWI, I mean ALL of us, and I mean every day. Some of us are better at it than others. Running out of gas in your car as you pass by several gas stations with prices higher than you’re willing to pay is an example of misplaced priorities. In that example you could pick out several priorities that were not correctly identified, the most obvious one, paying attention to your fuel level in the first place.

Many times, we recognize when we’ve prioritized things incorrectly because of the negative consequences, and other times we don’t. Probably because nothing negative happened. In those instances where nothing negative happened, the order in which we did things was probably not critical. As a CWI, the order in which you process many of your daily tasks should be considered critical. The last thing you want is to have to explain, after the welds failed, that you didn’t think those PQR test results were “that critical” that you needed to wait for results before you wrote, and starting using, the WPS in production.

The following is based on the Eisenhower Principle, so named after President Dwight D. Eisenhower, and is one way to establish priorities for many situations:

1) List all the tasks that you need to accomplish for the project at hand.
2) Assign each task a priority level based on four categories.
   • Important and Urgent
   • Important but Not Urgent
   • Not Important but Urgent
   • Not Important and Not Urgent
3) Review your assessment and be honest.

Here’s how the priority levels work. Remember the “Important” in all of the following refers to the immediate task that you are responsible for. Important and Urgent tasks are those that are critical to the successful completion of your overall goal and will require your immediate attention. Important but Not Urgent are still critical to the successful completion of the overall goal, but can be placed on hold momentarily. Not Important but Urgent are issues that come up during the day, like a phone call, an email or a question from a co-worker that need your immediate attention but are not important or related to your overall goal. And lastly, Not Important and Not Urgent are those issues that come up during the day that you might be able to delegate or postpone until a later date, and may have no direct impact on your overall goal.

Continued on page 7
**What’s next? continued from page 6**

Here’s a practical example of how you might use this approach to qualify a PQR. Make a list in the morning of everything that you need to accomplish to complete this task and assign priority levels. This task may take several days to complete. Don’t worry about the order you list things in, that’s what the priority levels are for.

1. Locate the test material that previously arrived (I’ve assumed that it’s already in your building somewhere). **Important and Urgent**
2. Review the customer drawing. **Important and Urgent**
3. Review the specified standard. **Important and Urgent**
4. Check availability of a welder and power source. **Important but Not Urgent**
5. Cut material to required coupon sizes. **Important but Not Urgent**
6. Prepare coupons with the appropriate groove angles. **Important but Not Urgent**
7. Perform welding and record all PQR data. **Important but Not Urgent**
8. Contact NDE providers (if out sourced) for a quote. **Not Important but Urgent**
9. Contact purchasing to have P.O. for N.D.E. processed. **Important but Not Urgent**
10. Contact shipping and receiving to arrange sending coupon out for processing. **Important but Not Urgent**
11. Contact shipping and receiving to arrange picking up your completed coupons. **Not Important and Not Urgent**
12. Write your PQR. **Important but Not Urgent**
13. Write your WPS (assuming your PQR passed all requirements). **Important but Not Urgent**

Once you’ve completed your list and assigned the priority levels, start with all the **Important and Urgent** items first. Keep in mind that these are top priority and require your direct involvement. Or, you can assign these to someone that understands the requirements of your project and the requirements in qualifying a PQR. Next, look over the **Important but Not Urgent** items. Most of these can probably be handled with a phone call, or easily delegated. Once you’ve gotten those out of the way you can direct your attention to the **Not Important but Urgent** items. Again, many of these can be delegated, and probably should be, so that you can stay focused on working with your welder to complete the PQR coupon and record the data. Lastly, you can take care of the **Not Important and Not Urgent** items.

The most important part of this entire concept is that you need to constantly evaluate your priority levels during the project. As in the example, you will have several items that you’ve labeled **Important and Urgent**, so you’re going to need to decide which of those need to be completed in what order. It’s not easy, but if it were easy, anybody could do it. That’s why you’re an AWS CWI. Challenging tasks are what you were trained for and you probably love them and rise to the challenge.

If this kind of thing interests you and you’re not already an AWS CWI you may want to consider becoming a CWI. If this is a career that you would like to pursue, the AWS-Detroit Section is hosting two AWS CWI Seminars/Exams this year:

- CWI Seminar June 3-8, 2018/Exam June 9, 2018
- CWI Seminar Sept. 30-Oct. 5, 2018/Exam Oct. 6, 2018

**Washtenaw Community College**
4800 E. Huron River Dr.
Ann Arbor, MI., 48105-4800

Check the AWS-Detroit e-Bulletin often for other helpful information, at [awsdetroit.org](http://awsdetroit.org). For more information on how to become properly trained and certified by the American Welding Society and to register, visit [aws.org/certification](http://aws.org/certification).
Q: “My company is in the process of quoting several new assemblies that require resistance spot welding and I am concerned that the specified widths of the flanges are too small for the required electrodes. Are there sources for flange width design recommendations that I can reference so as to determine whether or not the proposed concept is capable of supporting the required resistance spot weld?”

A: “In the previous column (Feb-18 ATWE) we laid the foundation for our discussion on the required minimum flange width. This included the motivation of select and concerned parties. In this column we will further the discussion, to include a comparison of actual minimum flange width values from various design standards.

The subject of a required minimum flange width, also referred to by many design guidelines or standards as flange overlap, is a source of continual debate within the resistance welding community and from my perspective (for reasons I’ll detail as we progress in the discussion) the issue appears to becoming more controversial as time progresses. For clarification this discussion will not be focusing on the minimum accessibility requirements of resistance spot welding tooling. Minimum accessibility is an important topic but very much separated from the various aspects related to flange width requirements. Instead this column will look at the actual portion of the part that is welded in an attempt to help clarify this one of many important issues facing the resistance spot welding industry today.

To help answer your question regarding the necessary minimum welding flange width there are several references available but as is the case in most situations regarding welding there is not one hard and fast answer. The RWMA Resistance Welding Manual (revised 4th Edition) and the AWS C1.1:20120 (Recommended Practices for Resistance Welding) contain guidelines for flange overlap. These recommendations are based on input from member companies and represent a good generic starting point for your investigation. The data in Table-1, which includes the results of two different automotive OEM’s, helps to illustrate this point: As detailed it should be readily apparent that no one agrees what the proper flange width should be.

What is not shown in the table are the varied methodologies utilized by each design guideline to determine their respective minimum flange widths. Examples of these differing approaches are very prevalent when reviewing the applicable OEM documentation. While only two OEM design guidelines are shown as part of this discussion a review of other available sets of applicable OEM documents resulted in a myriad of approaches to important elements such as electrode diameter, governing metal thickness (GMT) and angle of access. A few of the design guidelines also consider the strength of the material, no doubt based on guidance from their stamping organization, while others take a more basic approach and list a single value for minimum flange width regardless of the application. Another important consideration to take into account is how the weld flange data is presented. Some of the design guidelines group the minimum welding flange width by a specified electrode diameter while others continuously vary the flange width based on the GMT of the parts being joined. The OEM design guidelines may also contain detailed representations of the various potential joint combinations (see Figure-1 for examples of 2-thickness joints). These representations may indicate particular dimensional criteria that must be considered and adhered to in the final design or they may just be generic in nature. Again, as stated earlier, no one is in agreement with one another.

It was good to see in your question the concern you raised concerning electrode usage. The utilization of narrower than recommended flanges can have real consequences when it comes to the welding electrodes. As electrode selection is typically driven by both GMT and the required weld size, any weld flange configuration that does not support the use of the needed electrode geometry should be viewed with suspicion (reference the Mar-14 ATWE). The AWS Resistance Welding Pocket Handbook (search for RWPH:2011 in the AWS bookstore) details a wide variety of electrodes, including a number of electrodes that are tailored for, if necessary, narrower flanges. A word of caution regarding the use of narrow flange electrodes: To achieve the required physical characteristics necessary for applying the required welding force and current in a confined space, many of these electrodes are designed in an asymmetric manner. This loss of symmetry means that it may be possible to install the electrode improperly with the end result being variation in the weld location (potentially to the point of missing the part) or in a worst-case scenario the part and/or welding machine being damaged by the physical act of closing the electrodes. Also, due to the nature of their construction many of the narrow flange electrodes have smaller water cavities and/or a greater distance between the water cavity and the contact face, with the predictable loss in thermal capabilities, and

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<th>Approx. GMT</th>
<th>AWS C1.1</th>
<th>RWMA Manual</th>
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<td>23.0 (20.0)</td>
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2018 Ladies’ Night Recap and Thank-You

After a seemingly relentless winter, the last week’s weather lulled us into thinking that the 78th annual AWS – Detroit Section Ladies’ Night gala on April 14th would be a warm spring day. Alas, old man winter growled one final time. Despite his fearsome threats, we all retreated to the MotorCity Casio Hotel for fellowship, camaraderie, celebration, indulgence, and dancing.

While we gathered, guests were treated to “red carpet” portraits by Gugel Photography and enjoyed cocktails & hors d’oeuvres in the MotorCity Sound Board. (Don’t forget to log on to www.gugelphotography.com/2018AWS to download your free portraits.)

Once gathered we transitioned to the MotorCity Ballroom for awards, dinner, and the raffle. Donald F. Maatz, Jr. was our Master of Ceremonies. We started with introductions to representatives from AWS National.

Dale Flood (AWS President) was on hand to present Raymond Roberts with the WEMCO Excellence in Welding Award and Glen Knight with the National Meritorious Award. Phil Temple presented a district director certificate award to Svetlana Flood (Wife of Dale Flood) in appreciation of her support of AWS. Immediately thereafter Wesley Doneth (AWS-Detroit Chairman) presented Monica Pharr (Executive Director of the AWS Foundation) a check for $150,000 for the AWS National Workforce Grant Program (to be matched by the AWS Foundation). Also on hand were Matt Miller (AWS CEO), Phillip Temple (AWS District 11 Director), and Amos (and Marilyn) Winsand – Former AWS Treasurer and Past Detroit Section Chairman (1978-79) – Father of the AWS Scholarship Program.

Following these formalities we all settled down to a masterfully prepared duet of Salmon in Vernors BBQ sauce and Short Ribs together with Dauphinoise Potatoes and followed by Flourless Chocolate Torte and Espresso Tiramisu. Once we had all had our fill, Svetlana Flood started off the door prize raffle. In total, thirty-four door prizes with a retail value of more than $9,500 were given out to many very lucky ladies.

After dinner and the raffle, we retired again to the MotorCity Sound Board where we were entertained by the 8-piece band Persuasion. Guests danced and partied into the night.

I extend my heart-felt thanks to our section patrons and the twenty-two table hosts who hosted 503 guests and made this night possible. Moreover, I am grateful to the support from the Ladies’ Night Committee (especially my wife Kristi) for helping put together this gala.
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Awards continued from page 3

services and program launch support at Ford, Chrysler, FCA and a multitude of Tier 1 suppliers. Most recently Donnie has transitioned to the Detroit area Accounts Manager for RoMan Manufacturing.

Although he is only 37, Donnie has been a member of AWS for 20 years having originally joined as a student in 1998. In 2016 Donnie was elected to the AWS Detroit Section Executive Committee handling eBulletin advertising in his first year. More recently Donnie has brought new members to the committee through his involvement on the Nominating Committee, has been placed in charge of the annual AWS Detroit Section Golf Outing and is currently handling publicity for the Sheet Metal Weld Conference – which is our section’s premier technical event. His dedication to the section and willingness to tackle any assigned task has made Donnie an excellent and welcomed addition to the AWS Detroit team. Congratulations Donnie!

Andre Young
“Section Appreciation Award”
Andre received his education from Lawrence Technological University, holding a Bachelor of Science in Electrical Engineering. He spent part of his working life as a Product Manager with Sydevco but has occupied a position with KUKA Robotics in Shelby Township since 2012.

Andre has been an anchor in the Detroit Section, acting as Treasurer for the Section since 2004. Andre was active in the decision to make a large donation to AWS National on behalf of the Detroit Section in 2012/2013 as a part of the National fund matching campaign which currently funds the $60,000 given away by the Detroit Section in local scholarships each year. Thanks in part to Andre’s efforts as treasurer, the Detroit Section made another large donation to National this year as a part of a fund matching campaign structured to help create a local grant program aimed at improving the welding resources available to students of all types in Detroit and its surrounding area. In many ways, the Detroit Section owes its success to the dedication and consistency from members like Andre. Congratulations Andre!

RoMan Manufacturing
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RoMan Manufacturing has been a long term sponsor and supporter of the AWS Detroit Section in the truest form. They have been in the top five table buyers for our annual Ladies Night event, in the top ten for donations to our Patrons fund, they are a consistent advertiser in our eBulletin, have hosted several technical nights at their facility and sponsor items at our Sheet Metal Weld Conference. Outside of the donations made to the section, they also support our Executive Committee through the involvement of Dan Wellman (former Section Chair). Congratulations Obara and thank you for your continued support of the Detroit Section!

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The above discussion does not detail several important elements that should be considered when determining what is the required minimum flange width. These will be addressed with the next column.”

* Table-1: Minimum Flange Widths based on GMT. Both the flange width and the intended electrode cap diameter (in parentheses) are shown.

**Figure-1: Examples of 2-Thickness (2T) Joint Configurations. Arrows indicate the actual flange width.

References:
2) AWS C1.1M/C1.1:2012, Recommended Practices for Resistance Welding

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