January 2016 Tech Night

“Alternate Welding Process”
Thursday, January 14, 2016

Come join the AWS Detroit Section for our 1st Technical Night of 2016! We welcome all members and non-members to join us at a technical night.

Camarc Technical Director, Ross Hughes will be reviewing “Alternate Welding Processes” with us. Tom Graham of Abicor Binzel will be speaking as well.

Have you ever wondered if there are other solutions out there that might fit your welding needs?

While the prevalent welding processes in the automotive welding market consist primarily of MIG and Resistance welding, there are numerous other technologies that offer surprising benefit for producing high quality welds: laser, plasma, and TIG to name a few. The issues with these processes in mass production settings often relate to matters such as part fit up, process speed, or ease of use. The usage of complementary technologies such as optical and tactile seam tracking, laser spot size/arc length control, and ways to address quick and easy electrode exchange for TIG / Plasma offer a broader range of solutions to meet your metal processing needs.

Please join us at Camarc on Thursday January 14th to see some of these new approaches from Abicor Binzel and Camarc.

LOCATION: Camarc, 39048 Webb Dr., Westland, MI 48185

AGENDA
5:30 – 6:00 pm Welcome & Networking
6:00 – 7:00 pm Dinner and presentation
7:00 – 9:00 pm Tour and Tour
9:00pm Adjourn

Please RSVP by Tuesday, January 12, 2016. Contact via email:
John Sutter – johnsutter@comcast.net
or Viji Kuruvilla – viji@genesisqs.com.

There is no charge for this event, but donations for our scholarship program will be accepted.
Wesley Doneth
Chairman’s Message

Happy New Year!

Well I hope your resolutions are still holding strong and that you added – “Increase Participation in the American Welding Society” – as one of your 2016 resolutions. This month, there is a hotline article for those interested in throwing their name in for the upcoming election this spring to join us on the Executive Committee. Please consider either yourself, if you are a manager – someone on your team, or even suggest a colleague contact us. The commitment is manageable and the chance to affect our section in a positive way is very rewarding. If you received a scholarship while a student like I did consider paying it back thru volunteering your time. Our section events like Tech meetings, education series, Ladies’ Night, Sheet Metal Welding Conference and Golf outing are all planned and executed by a group of talented volunteers.

Hopefully 2016 brings great success to everyone in their personal and professional life. I have enjoyed the first half of my role as Chairman and hope to achieve some goals before my term ends in June. I wish you a Happy New Year and prosperous 2016.

Wes

Ladies’ Night and the Detroit Waterfront -1940

Seventy-six years ago, when the first AWS Detroit Ladies Night was held, members would have been familiar with the Boblo Island boat launch, the J.L.Hudson building, the original Vernor’s factory, and the Tashmoo boat launch pictured in our nostalgic LADIES NIGH advertisement.

Tyler Alexander has been doing a phenomenal job of peaking our interest in the 2016 Ladies’ Night event. Tyler heads up our Ladies Night commission this year, and he’s been providing us with some stunning “teasers” each month as we approach the 2016 Ladies night this April.
AWS Christmas Party 2015

Again, Western Golf and Country Club did a great job hosting our Holiday Party! And we had a great turn out again this year! Phil Cole at the piano, was spinning all of your christmas favorites, and he added in some broadway and classic tunes. The raffle was a hit with over 30 prizes ranging from gift baskets to a lap top and from a mouse to some really nice jewelery for the ladies. The 50/50 scholarship fund raising raffle was a big success with JoAnn Bohr winning $260.00. We saw several new faces join us this year along with some newer sponsors of tables and prizes.

A big thank you to all of the company sponsors and the organizing committee:

Andre Young
Susann Mofino
John and Liz Sutter

Check out the AWSdetroit.org website events page and our photo album for more pictures from the event!

Jennifer and Dan Wellman
Editor’s Notes

Welcome 2016 and all the opportunity it brings! A majority of people like to start out the new year with a list of goals and achievements that they would like to complete throughout the year. May I suggest that if you can be included in that group, you add our AWS-Detroit section to your list of goals. Whether it be attending one of the technical meetings, participating in an interview for our meet our members articles, or coming out to one of our various social events throughout this next year.

Our e-bulletin has been a little light the last few months. One of my goals as editor is to ensure that our bulletin is not only informative and professional, but draws in our members so that they are more involved.

This month, we are extremely fortunate to have an article from one of our student chapters, and another great interview in our Meet our Members columns.

Our e-bulletin is free for everyone to view, so if you know someone who might appreciate a copy, send them the link to our website (www.awsdetroit.org) and have them sign up to receive their own copy via email.

Remember, as long as you keep trying to pursue your goals/achievements, you can never fail. Be thankful and until next month... Keep on Welding!

Robin
E-bulletin editor
Email: robin.michon@kukanao.com

January Hotline

Calling all candidates for the 2016/17 Executive Committee Election!

Each winter the AWS Detroit Section Nominating Committee assembles a list of Candidates to prepare a ballot for an election that occurs in early April. To prepare for the election, the Nominating Committee is charged with assembling a roster listing a minimum of 8 candidates who represent the various segments of the welding industry.

Why Is this Process Important?

Quality Nominees are essential to the continued success of AWS-Detroit, which was chartered on February 3, 1925. With approximately 1,000 members, AWS-Detroit continues to thrive and host several nationally recognized activities, including Ladies Night and Sheetmetal Welding Conference. The objectives of AWS-Detroit include:

- The advancement of the science, technology and application of welding and allied joining and cutting processes, including brazing, soldering and thermal spraying;
- Support for, and provision of, educational opportunities related to welding and allied joining and cutting processes;
- Encouragement of the interaction of the local community of welding professionals, students, and users; and,
- Advancement of the image of welding.

Please contact Wesley Doneth at 810-844-2800 or doneth.wesley@fronius.com for more information. This is your opportunity to advance your involvement in one of the oldest and largest sections in the USA.

Welder Repair Technician

ICR is a single source solution provider of industrial component repair, products and services for manufacturing facilities and industrial automation systems. ICR is headquartered in Warren, Michigan with repair facilities in Canada, Mexico, and South Africa.

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Death notice for Past Chairman Anthony F. Metzger

http://martenson.tributes.com/obituary/read/Anthony-Frank-Metzger-103078337

Metzger, Anthony Frank, age 90, December 6, 2015 of Dearborn. Beloved husband of the late Patricia. Loving father of Anthony, Jr. and Jane (the late David) Pavliscak. Devoted grandfather of Paul Pavliscak. Also survived by his sisters Geraldine (Alfred) Hyams and Eleanor (the late Robert) Yastik. Preceded in death by his siblings Agnes Marshall and Gerald Metzger. In lieu of flowers memorial contributions may be made to grandson Paul’s 529 College Savings Plan (Account name: Paul A. Pavliscak UGMA/UTMA)

Did your company promote someone that needs recognition?

Maybe you’ve moved to a new location, or perhaps would like to advertise an open house or other event that would be of interest to our members? Employment opportunities? If you think it might be of interest or importance to our members and readers, please contact Russ Webster, russ.webster@gm.com. Our typical cutoff date is the 15th of each month for the next month’s bulletin. Thank you~

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William D. Ford Student Chapter Highlights

The members of the William D. Ford AWS Student Chapter were honored to have Coley McLean from Schoolcraft College as a guest speaker. Coley spoke about “Careers in Welding” to our students.

< Left to Right
Front Row: Chase Larson, Nikki Owens, Richard Randall, Rick Lawrence, Danny Thacker, Coley McLean, Wesley Pringle, Michael Fowler
Back Row: Dawson Bragenzer, Jake Longuski, Ryan Sherman, Nick Cadaret, James Bedzyk, Umar Black, Anthony Virjan, Marshall Dotson

< Danny Thacker & Coley McLean

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“In general, when should I use a water-cooled welding cable in place of an air-cooled one? It would seem that there are tremendous advantages to a water-cooled cable for dealing with the heat generated by welding.”

“It bears repeating that every component in an electrical circuit has an electrical rating associated with it, and that violating that rating can lead to some serious consequences. One such example would be the circuit breakers (or fuses) in your house. The real reason they are sized the way they are is to protect the wiring buried inside the walls from being overloaded, and eventually overheating. If this was not considered, the potential for fire would be both very real, and very dangerous.

Both the water-cooled and air-cooled secondary cables you asked about have thermal ratings associated with them. However, as is common with electrical circuits that do not run continuously, the current that passes through the individual components has to be converted to a continuous value so a thermal evaluation can be performed.

The typical (there are exceptions) resistance welding process is not a continuous operation (i.e., off time between welds exists). However, equipment thermal ratings are based on a continuous operational current. The continuous loading is often referred to as the Equivalent Continuous Thermal Current, or ECTC. To determine this we need to know both the weld schedule being used, and the duty cycle of the equipment.

As a demonstration, the following example will be used:

<table>
<thead>
<tr>
<th>Number of welds/min</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weld Time (cycles @ 60Hz)</td>
<td>20</td>
</tr>
<tr>
<td>Base Current (Amps)</td>
<td>11000</td>
</tr>
</tbody>
</table>

First, we need the Duty Cycle (DC) of the operation:

DC (Based on 1 minute) = [(N x t) / (60 x f)] x 100%

ECTC = Current x 0.1 x \(\sqrt{\text{DC}}\)

ECTC = 11000 x 0.1 x \(\sqrt{5.56}\%\) = 2593 Amps (2600 amps for our purposes)

With this information it is possible to see what size the different secondary conductors need to be so that we are within their thermal limits. If we reference the Air Cooled Cable Capacity chart (ref. RWMA Bulletin-16, 1.7.34) we see that a 14” long 1000 MCM cable, properly water cooled at both ends, is right at the very edge of acceptability. My guess is that if you consulted with any of the cable manufacturers (always a very good idea) a 1200 MCM would be their preference - provided it has the flexibility needed for the application.

For comparison, a 14” long water cooled 350 MCM cable would be able to handle over 9X the required 2593 amps. But as the famous economist Milton Friedman once said: There’s No Such Thing as a Free Lunch. The reduction in secondary cross-sectional area (recall 1 in\(^2\) = 1273 MCM) from using the 350 MCM water cooled cable vs. the larger 1200 MCM air cooled cable can have real and dramatic consequences for the welding process. We will touch on that one in of my next columns.”

If you have more questions about this topic, Don can be reached at: R&E Engineering Services
A subsidiary of R&E Automated Systems, LLC
17500 23 Mile Road – Suite B, Macomb, MI 48044
(586) 228-1900 – Office
(734) 793-2304 – Direct
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References:
2) RWMA Bulletin #16 – Resistance Welding Equipment Standards
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YOUR ONE-STOP JOB SHOP FOR SPECIALTY WELDING ALLOYS
Welcome, Amanda! You are our first interview of the New 2016 Year! If you don’t mind, let’s start out by finding out a little about you.

My name is Amanda Scheffler and I am a welding instructor at Washtenaw Community College.

As a welding instructor, what do you like or dislike about your position?

I like to put my time into someone, work with them, and see them progress. It makes the job feel rewarding. The only thing I’d say I don’t like is that I get 32 hours a year off of work during semesters, and that comes with stipulations.

Why did you join AWS?

I joined AWS because it’s the main governing body for welding in the world. I want to be a part of that and support it.

Do you have a favorite AWS event?

I like the technical meetings. They allow for small group discussions and for networking in the local area.

Well, we’ve learned about the professional side of Amanda Scheffler, now let’s learn a little about “off the clock” Amanda. What kind of things do you like to do?

I enjoy skydiving. I own an all-women’s skydiving demonstration team and we travel all over the world to perform skydiving demos at airshows and jump into sports games and other events!

What is your funniest moment or story? It can be on or off the job, and include school or training.

One of my funnier moments at work was when I was working as a second year apprentice with UA Local 190 Plumber/Pipefitter Union in Ann Arbor, MI. I was working with a Journeyman named Angelo (I won’t make his last name known.) He was a fantastic mentor to me! But anyways, we were installing fixtures in the bathrooms at a large commercial place. Specifically, I was installing the urinals this day while Angelo was getting frustrated around in a circle and flushed. Just like I have seen flushed just like I set it to. It made a swoosh noise and spun

and he showed me what the flush for a urinal is supposed to be.

That is a very funny story. And, it does make perfect sense as to why you kept doing it incorrectly.

Amanda, let’s talk about mentoring. Is there anyone who has been a significant mentor to you?

I have been lucky enough to have many great mentors throughout my 18 years of welding. I’m not even sure where to start with that. I have had so many great mentors in the welding community. I’m afraid to start listing them by name because I will probably forget a few and that would make me feel awful. I’ve noticed that as long as the old timers see you are working hard and genuinely care about the quality of the job you do, then they tend to open up and take you under their wing and teach you things. If a young person has a bad attitude, bad work ethic, is arrogant or displays a sense of entitlement to the knowledge from the more experienced workers then they will probably not receive what they are looking for.

Let me ask, how did you get your start in welding?

I was in my 10th grade English class when a lady came to tell the class about the Technical Center in the school district. I misunderstood what she told us. I thought if we went to this technical school for the first half of the school then I would receive an extra amount of credits for that time and then I could graduate early. So then, I chose what I thought would be the easiest class with the least amount of homework…Welding. I was wrong on both assumptions. But I really enjoyed welding a lot! I also picked up on it pretty fast, so then I looked into how much money a Welder can make and that solidified my decision. I quit teaching piano and was lucky enough to get my first welding job when I was 16 years old, thanks to my High School Counselor.

Sounds like it was a good thing that your misunderstanding turned into a great career!

If someone has an interest in welding, but they are undecided about becoming a welder as a career, what kind of advice would you give them?

Do more research. There are so many different avenues that a welding career can take you. Have you looked beyond production work? Try looking into some of these areas. Do you enjoy working on big things and working outside? Like repairing bridges, repairing ships or submarines in dock or walking the steel and building skyscrapers. Are you the creative type? Try brazing copper to steel to create artwork or making someone a piece of furniture for their birthday. Do you enjoy working indoors? Look into welding on airplanes, armored tanks, or titanium bicycle frames together. Are you the kind of person who enjoys more of a mental challenge? Then research the jobs that come with being a Certified Welding Inspector, or with other code work and quality assurance, or inspection and testing where you get to destroy weldments and document it for companies. Have you ever thought about what you want to do when you retire? What if you learn to do underwater welding and move to Hawaii continued on next page
and weld on rich people’s yachts in the warm crystal clear ocean? I think there is an area of welding that can suit most people’s wants, and they all pay well. You can even create your own welding company and be your own boss!

We’re down to our last couple of questions for this interview. What are your thoughts on encouraging our youth, both high school and junior high students into technical schools and jobs/careers and not just the degreed positions? Would you encourage more schools to encourage this?

Yes, absolutely! In order to get a degree you need to invest a LOT of money. Typically, if you get a “degreed position” that often means you need a 4 year degree. Those can cost a LOT of money! However, if you go to a trade school or get into an apprenticeship program then you can graduate from those types of schools without student loan debt. You also work during that time as well, which means you ALSO put money and hours towards your retirement plan, that’s something you miss out when going to college, the first 4-5 years have quite an impact on compound interest towards your retirement.

Amanda, you’ve been a great guest and have had a lot of great things to say about the welding industry. With that being said, if you weren’t involved in the welding industry, what would you see as your dream job?

That’s an easy one. My dream job was always to be an Archaeologist. I always wanted to be like Indiana Jones, my idol. I’m not afraid to admit that. However, that takes at least a 4 year degree and I never had money to go to a university, so I never had that option. Once I started welding I did make good money, but it always went towards living expenses, not college. But I always thought welding was fun too.

Thank you, Amanda, for your time and your insight with this interview!

Meet Our Members (continued from page 9)

An interactive PDF application form (with supplemental instructions) is now available on the AWS Detroit Section website www.awsdetroit.org

Application deadline for the 2016-17 academic year is April 1, 2016.

Scholarship Committee, AWS Detroit Section
P.O. Box 32952 • Detroit, MI 48232-0952

For 2015/16 the Section was able to award 32 scholarships totaling $45,500 to students from 8 different schools.

For students pursuing Post-secondary training or an Associate/Bachelor Degree in Welding Engineering or Welding Engineering Technology, these scholarships provide money to be used for the student’s tuition, books, or lab fees for one year. To be eligible for these scholarships, you must be enrolled in a certification-based program or two (2) or four (4) year engineering degree program in Welding, Welding Technology, or a related field. The program supports students attending schools in the state of Michigan and the following counties in the province of Ontario: Essex, Chatham-Kent, and Sarnia-Lambton.

If you’d like to be featured in one of our “MEET OUR MEMBERS” issues, please contact Dan Galiher by email at galiher.daniel@towerinternational.com