American Welding Society®
DETROIT SECTION

e-Bulletin

FEBRUARY 2026

Inside This Issue

Check out the latest videos published by the American Welding Society on its YouTube page.

AWS Technical Nights are open to everyone! We encourage that members bring students and non-members to learn more about our organization and industry.

Affiliated With
ESD
THE ENGINEERING SOCIETY

AWS-Detroit Technical Meeting

Thursday, February 12, 2026 • 5:30 to 8pm

Focus:HOPE hosts

Tessonics Ultrasonic Inspection

1400 Oakman Blvd, Detroit, MI 48238

CLICK LINK TO R.S.V.P.:
https://www.eventsquid.com/event/30999

Please join us for the February Technical Meeting, hosted by Focus:HOPE, featuring a facility tour, presentation, and on-site demonstrations by Brandy Schmidt and Danilo Stocco from Tessonics.

Brandy will discuss the spot-welding inspection process with the latest technology of the RSWA F2 platform products widely used in the automotive segment. Other technologies presented by Danilo include the RIWA (Real-time Integrated Weld Analyzer) and the Smart Welding Guns. Both technologies focus on industry 4.0 methodology with extensive data collection for real time decision making and process control.

They will have the F2 Ultrasonic Inspection units on location after the presentation for hands-on demonstrations.

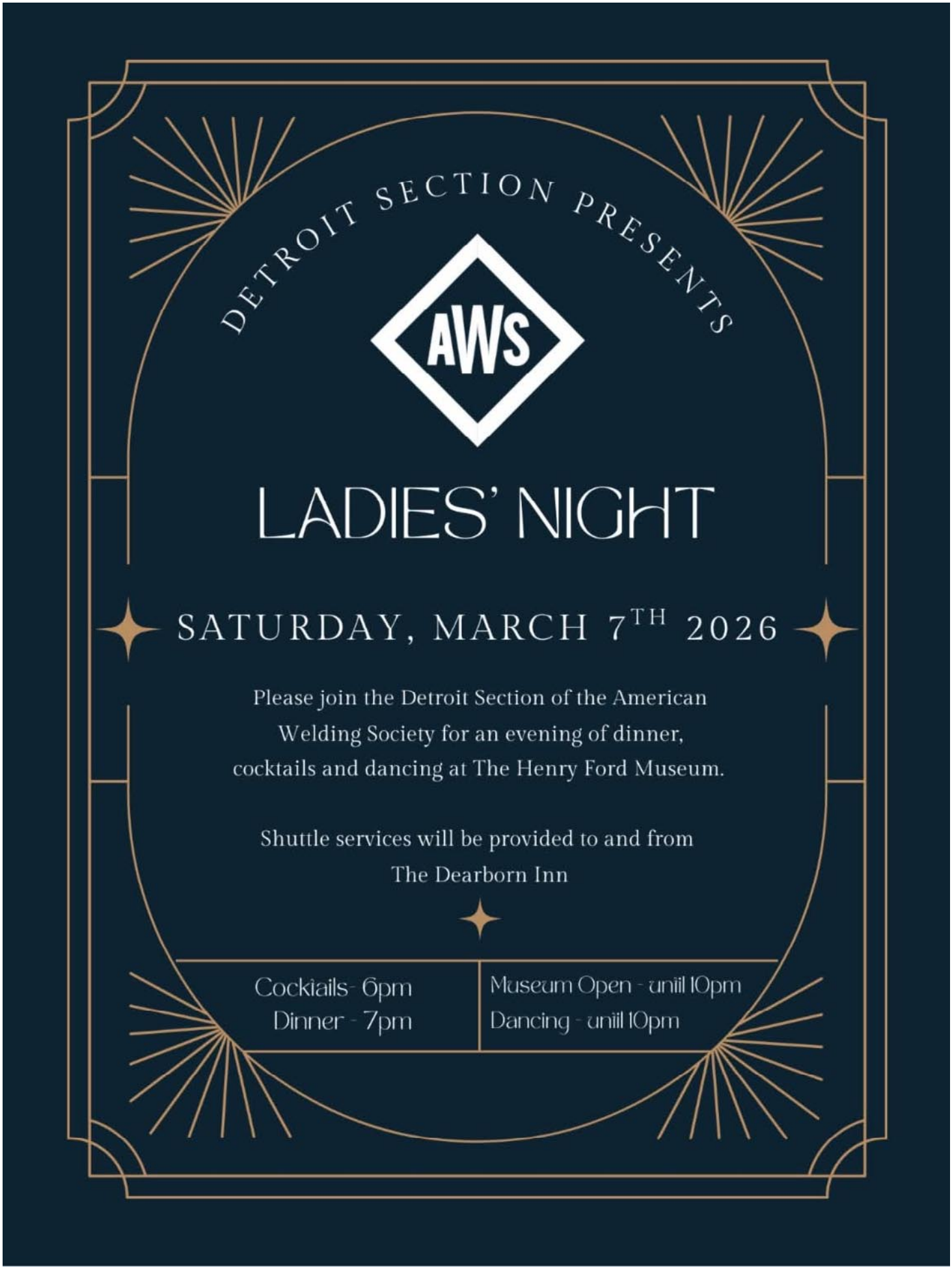
Chairman's Message
Donnie Crist

Hello AWS Members and Friends,

I hope 2026 has started off well for you and your organizations. As our industry continues to evolve with advancing technologies, increased emphasis on data-driven processes, and ongoing workforce development needs, the role of technical engagement and professional connection remains as important as ever. The AWS Detroit Section is proud to support this momentum by offering meaningful technical programming and signature events that bring our members together throughout the year.

We have an excellent Technical Meeting planned for **Thursday, February 12th,** from 5:30 PM to 8:00 PM, hosted by Focus:HOPE (1400 Oakman Blvd, Detroit, MI 48238). Tessonics Ultrasonic Inspection will present on the latest advancements in inspection technologies. Brandy Schmidt and Danilo Stocco will discuss spot-weld inspection using the RSWA F2 platform, a technology widely adopted in the automotive sector. Additional technologies presented will include RIWA (Real-time Integrated Weld Analyzer) and Smart Welding Guns, both aligned with Industry 4.0 methodologies, emphasizing extensive data collection for real-time decision-making and improved process control. F2 ultrasonic inspection units will be available following the presentation for hands-on demonstrations.

"Chairman's Message" *continued on page 3*


DETROIT SECTION PRESENTS
AWS
LADIES' NIGHT
SATURDAY, MARCH 7TH 2026
Please join the Detroit Section of the American Welding Society for an evening of dinner, cocktails and dancing at The Henry Ford Museum.
Shuttle services will be provided to and from The Dearborn Inn
Cocktails - 6pm
Dinner - 7pm
Museum Open - until 10pm
Dancing - until 10pm

"Chairman's Message" *continued from page 1*

Looking ahead, please mark your calendars for **Saturday, March 7th**, when the AWS Detroit Section will host our premier event of the year—Ladies' Night 2026—at the Henry Ford Museum. Returning to this iconic venue promises to be a highlight of the year. Attendees will enjoy an evening of networking, dining, and cocktails surrounded by historic Henry Ford exhibits. A room block has been secured at The Dearborn Inn, and shuttle service will be provided between the hotel and the venue. Ticketing and hotel reservation details can be found later in this edition of the E-Bulletin. For additional information, please contact George Meeker at **George.meeker@kuka.com**.

I would also like to remind our members that the AWS Detroit Section Scholarship application period is currently open and will remain open through April 1st, 2026. Details are included in this newsletter. Please help spread the word to students enrolled in Welding Engineering, Welding Engineering Technology, post-secondary welding certification programs, or related fields with significant welding content. Supporting the next generation of welding professionals continues to be a top priority for our section.

Thank you for your continued support of the AWS Detroit Section. I look forward to seeing many of you at our upcoming events and throughout the year ahead.

Best regards,
Donnie Crist

Ask the Welding Engineer

By Donald F. Maatz, Jr.

Q: ***"What options exist for evaluating the quality of a weld nut, other than push-off, and how viable are they?"***

A: "Our previous columns (see the growing list below) started a broad look at projection welding (PW). As stated in these earlier submissions, while the initial question related to the important topic of PW quality, it will take us some time to get there as, from my perspective, we need to establish a few important things about the PW process.

- ATWE Dec-22 & Jan-23: Looked at the repair or reprocessing of a solid or forged/coined weld nut
- ATWE Mar-23 & Apr-23: Detailed one measurable quality element of a weld nut – Set Down
- ATWE Sep-23 & Oct-23: Discussed the addition of pre-heat to a PW weld schedule
- ATWE Nov-24: Talked about the process variables needed to be considered for PW
- ATWE Dec-24: Began the conversation of the forged/coined weld nut process
- ATWE Jan-25 & Mar-25: Detailed the unique nature of PW weld schedules
- ATWE Oct-25: Detailed the possible variation in the projections of forged/coined weld nuts
- ATWE Nov-25: Discussed why there was no standardization with forged/coined weld nuts
- ATWE Jan-26: Designed a hypothetical weld nut
- ATWE Feb-26 & ATWE Mar-26: Evaluation of existing projection designs

For this column we will look at a few examples of what is actually out in the field with regard to projection designs, and how weldable they may (or may not) be. If we recall some of the information in our prior columns, there are actually many different design attributes one needs to consider with regard to evaluating the weldability of a projection on various fasteners (forged/coined weld nut & weld stud/screw). These include the following, and all will play a part in our discussion.

A. Number of Projections
B. Projection Shape
C. Projection Size/Length
D. Projection Volume
E. Projection Symmetry
F. Other Design Features
G. Fastener Material

Fastener Projection Design Review

For our purposes we will review six (6) types of projections on projection weld nuts and projection weld studs/screws, to include their unique projection designs and materials. For my part, I am not aware of any formal designation with regard to these designs – They seem to vary by OEM. As such, I'll just use the G-rated terms I have heard most often on the floor. Please reference the numbered and circled/annotated PW fastener in Figure-1 for a visual example of each projection type listed below.

Projection Weld Nuts:

1. Elongated or Banana (two examples)
2. Round (spherical or conical with a flat)
3. Half-Round
4. Four-Corner
5. Eyebrow
6. Full-Ring

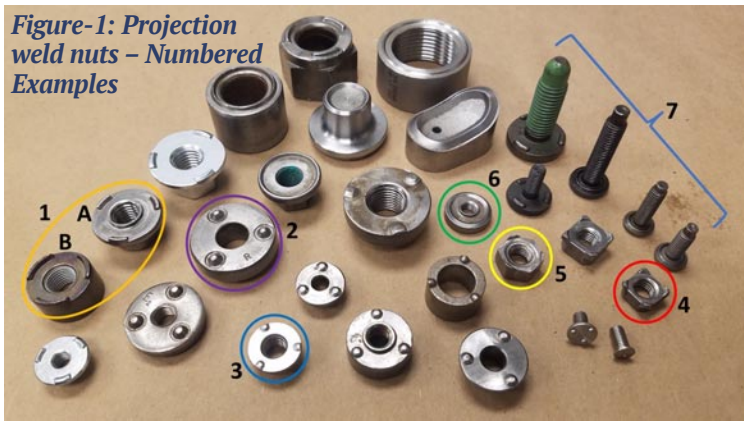


Figure-1: Projection weld nuts – Numbered Examples

Projection Weld Studs/Screws:

7. Weld Stud / Weld Screw (with various projection types)*

**For purposes of this column weld studs are not threaded, weld screws are.*

- ELONGATED OR BANANA (#1 – ORANGE CIRCLE)

These weld nuts use a projection that is, in most cases, a triangular prism. And when coupled with a hex-flange type weld nut, permit for the passage of force and current through a smaller amount of fastener material (1A). These two points alone make the elongated hex-flange welds nuts, from my perspective, the class of the PW field. Don't get me wrong, these weld nuts can still be a challenge to weld, especially the smaller variants (think an M6) to stronger and thicker gauges. But at the end of the day, if asked to utilize this design, the odds of success have improved.

The alternative elongated design (1B) requires the passage of force and current through the entire fastener. This single change may drive the need for more secondary voltage to overcome the increase in bulk material resistance. This can also result in the fastener being physically distorted due to it being heated while under the influence of full weld force. It should also be noted these designs are not always consistent (also see ATWE Nov-24 and ATWE Nov-25). One example of this is the percentage of the fastener circumference these projections occupy – Some are close to 25% (1A), while others push 50% (1B). It does not take much imagination to realize both cases weld very differently.

- ROUND (#2 – PURPLE CIRCLE)

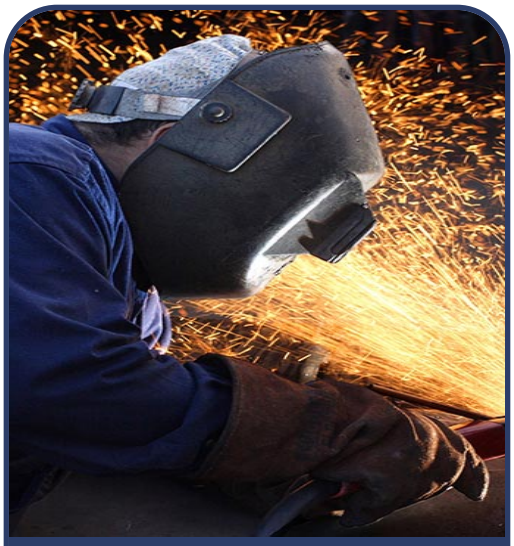
This design of weld nut is what I was first exposed to early in my career. Like all of these projection designs, it can struggle with an unfavorable volume/size to gauge/strength condition. But in general, this design portends increased odds of success when compared to most others. In this particular case, there is a recessed area around each projection for material expansion while welding – Something some, but not all, weld nuts with this projection design will have.

Many of these designs are associated with weld nuts one has to weld through. That being said, I have seen some hex-flange weld nuts with this spherical projection. As noted above, there are advantages to this approach. But historically, these weld nuts trended towards being rather thin, so the change to a hex-flange was not as dramatic as one might think.

- HALF-ROUND (#3 – BLUE CIRCLE)

These weld nuts are, from my point of view, very much middle of the road with regard to their weldability. I say this as the projections themselves have the potential for enough size and volume, but their

"Ask The Welding Engineer" *continued on page 7*



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who are pursuing careers in Welding
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"Ask The Welding Engineer" *continued from page 4*

asymmetric shape and location at the edge of the fastener can be problematic (see more on this topic below). As we will detail below, there are several other designs that can generate more heartburn for the welding folks. But this is not really much of an endorsement – Sort of like being the best house in a bad neighborhood.

- FOUR-CORNER (#4 – RED CIRCLE)

Before we go any further, let us state for the record, this weld nut has one (1) too many projections. I say this as it only takes three (3) points to define a plane. I understand this design is popular out in the field, especially with regard to products from the Asia-Pacific region. And to be fair, folks have come up with multiple, successful ways to weld them. None of this alters the fact they are more difficult to weld than they need to be precisely due to the number of projections they have.

Once one overcomes the inherent rocking motion associated with having more than three (3) projections, there are a few other design issues to overcome. These include: 1) the projection volume and size both tend to be small, especially when welding the smaller version of these nuts (think M6 or M8) to thicker gauge and/or stronger base materials, and 2) the projections themselves are located on the extreme edge of the fastener, typically resulting in some form of visible expulsion even when these nuts are being welded successfully.

While this last item is not cause alone to not like this design, it can add insult to injury and places the welding team in the cross-hairs of just about anyone who thinks the weld just does 'not look right.' Sigh…

We are about half-way done with our review, and will continue the conversation on PW with our next column."

If you have more questions, contact Don at:

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Donald F. Maatz, Jr. is with Milco Manufacturing, and serves in the capacity of Senior Welding Engineer. He is past-chairman of the AWS-Detroit Section, serves on the D8 and D8.9 Automotive Welding Committees, is chair of the D8D, and an advisor to the C1 Resistance Welding Committee, is an AWS endorsed CWI and an instructor for the RWMA School. He is a graduate of Ohio State with a BS in Welding Engineering.

INSIDE THIS ISSUE

ABSTRACTS DUE APRIL 30th, 2026

BODY CONSTRUCTION | DIGITIZATION | ELECTRIFICATION

Please join the AWS Detroit Section and share your recent technical contributions. The SMWC XXI is accepting papers related to welding and joining solutions for body construction, digitization and electrification. Selected papers will be invited to present their findings at the in-person conference.

Our Mission

is to advance the science, technology and application of welding and allied joining and cutting processes worldwide, including brazing, soldering and thermal spraying. AWS Detroit provides support for the industry in many ways, including:

- ***» Institutional Grants (endowment based);***
- ***» Scholarships through Application (endowment based);***
- ***» Scholarships through aptitude (HSWC);***
- ***» Vocational Support (case by case but budgeted each year), Institution (e.g. supply gas and materials), Local Contest (e.g. travel expense), International Contest (e.g. travel expense);***
- ***» Student Memberships (evaluated each year);***
- ***» Student Chapter (evaluated each year);***
- ***»Technical and Educational Opportunities.***

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INSIDE THIS ISSUE

American Welding Society®
DETROIT SECTION

SCHOLARSHIP PROGRAM

2026 – 2027 SCHOOL YEAR

RULES and APPLICATION INSTRUCTIONS

Application Postmark Deadline
April 1, 2026

Completion of this application automatically considers the student for the "Amos and Marilyn Winsand Scholarship," the "Robert P and Mardell D Wilcox Vocational and Engineering Scholarships" and the "Blazok Foundation Scholarship." These are AWS Foundation endowed scholarships.

1. Applicant must be enrolled in a Welding Engineering Program, a Welding Engineering Technology Program, a Post-Secondary Technical Program (Welding Certification targeted program), or a related field of study with a strong welding content.
2. Students are eligible to apply for Detroit Section scholarships if they are permanent residents of the state of Michigan or the following Ontario counties: Essex, Chatham-Kent, and Sarnia-Lambton. Students who are temporary residents attending school in the state of Michigan or the following Ontario counties: Essex, Chatham-Kent, and Sarnia Lambton are eligible for non-named scholarships. Preference will be given to students who are permanent residents of the Detroit Section territory, including Ontario counties: Essex, Chatham-Kent, and Sarnia-Lambton.
3. The Detroit Section Scholarship Committee administrates the AWS Detroit Section Scholarship program, with the assistance of the AWS Foundation. The Committee also selects the recipients of the Foundation scholarships.
4. AWS Detroit Section Scholarships are paid in varying amounts based on individual awards. If an applicant is awarded a scholarship, the payments are made directly to their qualifying educational institution through the AWS Foundation.

Application Instructions

- The information requested on the application form is self-explanatory. Please fill out the form completely.
- The AWS Foundation inter-active application is available either at www.awssection.com/detroit under the Scholarships tab. Or by going directly to the AWS Foundation scholarship page: https://scholarship.aws.org/
- For more additional information about the scholarship program, please see https://www.aws.org/foundation/page/scholarships
- AWS membership is encouraged of all welding aspirants.
- In addition to the application form, you must enclose or attach the following:
  - **Transcript(s)** – Official scholastic records or grade transcripts from the high school, college or university you attended during the recent school year.
  - **Personal Statement and Work Experience** – Ambitions, goals, background, and other factors that will help the selection committee understand your commitment to pursuing a welding career.

Opportunity for a *FREE SEAT* in the AWS CWI Detroit Seminar

Ever wanted to become a Certified Welding Inspector but found the cost of the week-long seminar prohibitive? Now you have the opportunity to submit an application to be considered for the free seminar seat offered by the AWS-Detroit Section.

If you are interested, please apply with this Google Form **CLICK HERE** by **Feb. 16, 2026**, for the CWI SEMINAR being held from **May 3 to May 8, 2026** (Part B Exam on May 9, 2026) at

Detroit Metro Airport Marriott
30559 Flynn Dr., Romulus, MI 48174

If you have any questions, please email **erin.e.lalinsky@gmail.com**