



# VIRTUAL EVENT

## FEBRUARY 15, 2023





## **Shane Turcott, Steel Image**

### **Topic: The Three Key Concepts of Steel**

Wednesday February 15, 2023

Speaking at 12:00PM (EST) - 12:30PM (EST)

*BIO: Shane graduated with his B.Eng. and M.A.Sc in Materials Engineering from McMaster University. After working for various employers, he founded Steel Image in 2009. Steel Image which is a laboratory performing failure analysis and material testing such as weld evaluations. He is the past Ontario Chair of the American Society of Materials plus author of “Decoding Mechanical Failures” and “Steel Isn’t Hard (to learn)”.*

Based upon the book, “Steel Isn’t Hard (To Learn)”, this session provides a fresh approach to explaining the most fundamental concepts useful to understanding steel behaviour. It demonstrates how differences in alloying and heat treatment can dramatically affect the properties of steel. This talk is helpful for those beginning to learn about steel, experts teaching others and everyone in between.



## **John Parker & Liz Neufeld, Seaspan** **Topic: The Welding Centre of Excellence** **at Vancouver Shipyards**

Wednesday February 15, 2023

Speaking at 12:45PM (EST) - 1:15PM (EST)

*BIO: (John Parker) I started an apprenticeship as a Boilermaker in 2006. I went to school for my C ticket in welding in 2007. I achieved my Red Seal as a Boilermaker in 2011. I started working at Seaspan as a Journeyman Ship Fitter in 2015, I was promoted to Leadhand and then Chargehand. I went to BCIT for the Marine Fitter program and achieved endorsement. I was promoted to Supervisor in 2018 and joined the Trades Workforce Development team in 2021. I am a certified CSA 178.2 welding inspector level 2.*

*BIO: (Liz Neufeld) Started C Level Welding in 2008 after high school. Continued with my education and finished A level welding and obtained my Red Seal for Welding. Started at Seaspan in 2015 as a Journeyman Welder. Worked my way up to a Leadhand then Chargehand position for pipe welding, then moved over to Trades Workforce Development as a Chargehand. I have been in my new title – Lead Instructor for a little over a year now. I am a certified CSA 178.2 welding inspector Level 2.*

The Welding COE (Center of Excellence) at Vancouver Shipyards has been opened for just over a year. Here in the COE, our primary task is to onboard new hire fitters, welders, and apprentices. During onboarding, we qualify them to CWB Marine Annex so they are qualified to work on the vessels we are building. They also go through a training course that's tailored to shipbuilding, learning safety rules and yard standard operating procedures relevant to the work we do in our Shipyard. Another task that is a main focus for our team in the COE is continued welder recertifications and upgrading our welders to utilize processes that meet best industry practices in shipbuilding. Our initial testing facility consisted of 5 welding booths which limited our ability to onboard large numbers of new employees. The COE has 20 welding booths set up for our general processes (FCAW and SMAW), and 4 welding booths set up special pipe alloys.



## **Dusty James, Pacific Arc Tig Welding** **Topic: Creating a New Way to Learn**

Wednesday February 15, 2023

Speaking at 1:30PM (EST) - 2:00PM (EST)

*BIO: Dusty James is a certified Journeyman Welder in BC, with over two decades of Tig welding experience in high level production. He was the Certified Welding Supervisor at his manufacturing plant, and now has transitioned to training people with his YouTube channel and his Online Tig Welding School at a much larger scale.*

Dusty has been able to create and run one of the most successful Welding programs online. Through motivating and inspiring people with his YouTube channel for more than 3 years, he has had to think of ways to grow as a teacher and a welding instructor. Creating a way to teach people online on his class platform has been a new stage of his career, and learning the best way to make a curriculum that works with students by distance, as well as developing a schedule to add accountability and support, has been something that has not only worked but exceeded what any students would ever want from experience.

This session will expand on his strategy of laying this out in a curriculum for students and show how it is not only possible to teach students by distance but in some cases, provide a learning environment that will stick with them for years, and potentially change their life.



## **Aaron Dinovitzer, BMT Canada**

**Topic: Why Welds Fail**

Wednesday February 15, 2023

Speaking at 2:15PM (EST) - 2:45PM (EST)

*BIO: Mr. Dinovitzer received his MASc in Civil / Structural Engineering from the University of Waterloo and is a Canadian Welding Bureau registered Welding Engineer. He is currently Vice President at BMT Canada (BMT) managing the Asset Performance Service Division and has been working on structural and welding issues for the past 30 years. He is a Structural and Welding Engineer applying his technical expertise to design, analysis, damage/degradation assessment and forensic investigation including expert testimony. At BMT Mr Dinovitzer provides support to the pipeline, marine, defense and power generation industries.*

All structures are designed with an operational life in mind with consideration of their materials, loading/environment and geometry contributions to potential modes of degradation and failure. This presentation will provide a brief overview of the modes of weldment failure and how these can be related to design, materials, fabrication and service conditions. After attending the presentation, attendees will have some insights into factors that could lead to weldment failure and an understanding of how it can be prevented. This presentation will be of interest to broad range of attendees, including but not limited to: Students, Engineers, Designers, Welders and Inspectors because everyone can contribute to preventing weld failure.



## **Dr. Girish Kelkar, WJM Technologies**

### **Topic: Shear Failures in Fillet Welds**

Wednesday February 15, 2023

Speaking at 3:00PM (EST) - 3:30PM (EST)

*BIO: Dr. Girish, through his sole proprietor business WJM Technologies, provides welding consulting and training services. Consulting is focused on the manufacturing sector and clients are from automotive, medical, aerospace, battery, and general manufacturing. Consulting can include design review, material selection, process selection, process development, and failure analysis. Consulting is provided via online communication including con-calls and emails, and also on-site to solve process problems. Training classes are offered for open enrollment on a quarterly basis and can also be scheduled for individual clients. Additional information is available on the web at [www.welding-consultant.com](http://www.welding-consultant.com)*

Fillet welds are one of the most common types of welds in assembly of automobiles and structural manufacturing. In fillet welds, the load is transferred through the weld and assuming the welds is made to spec, any overload failure will be in the weld fusion zone. Conventional wisdom is that shear along weld throat will be the mode of failure, irrespective of the static loading direction. In this presentation we will review shear loading along longitudinal and transverse direction and assess maximum stress along different planes in the weld fusion zone. In longitudinal loading, failure is likely along the weld throat. However, analysis will show that in transverse loading failure is likely to be along a plane at 62.5 degrees rather than along the weld throat.



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