
The Ductile Iron Society held the 58th Spring Annual 2016 Meeting at the Hilton Garden Inn in Perrysburg, OH from June 1 to 3rd. The DIS Research Committee Meeting was held on the Wednesday morning June 1st with 38 members and 2 guests attending, and was then followed by the Operating Committee Meetings that same afternoon.

At 3pm, the Board of Directors held their Spring Board meeting and at the same time the DIS MetalCasting Forum was held. The Board approved a new budget for the fiscal year 2016/17 effective July 1, 2016. At the same time they elected 3 new Board Members to replace the retiring Board members, Christof Heisser of MAGMA, Dave Williams of ASI International and John Davies of Lethbridge Iron. The Board elected Matt Meyer of Kohler, Rob Logan of Elkem and Michael Looby of Inductotherm. John Davies of Lethbridge Iron was elected as our new Vice President for a 2 year term.

On Thursday morning the attendees went on a tour of General Motors Foundry in Defiance, Ohio. After returning to the Hilton Garden Inn and the Annual Meeting Lunch, the technical program began and consisted of 6 speakers along with 2 panel presentations. The first was “Back to Basics” and the subject this
time was Green Sand Molding. The second Panel was “Conversion Success Stories”. You can find more about the presentations attached to this newsletter. If not available, you can contact Jim Wood, the DIS Executive Director at jwood@ductile.org.

At the luncheon on Thursday, June 2nd, the president of the DIS, Mike Galvin of Buck Company proceeded to hold the Annual Meeting for the members who were there in attendance.

Here are the notes from Mike’s presentation;

**DUCTILE IRON SOCIETY 2016 ANNUAL MEETING**

At this time I will recap the society’s activities during this past year before proceeding with the annual business meeting and the election of new officers.

On April 16 to 19, 2016 we again exhibited at the AFS CastExpo & Metalcasting Congress in Minneapolis, MN. Our booth and the volunteers, who manned it, were busy during the whole show. Thanks go out to Jim Wood of the DIS, Prem Mohla a consultant, Pete Guidi the DIS Treasurer and Mike Galvin the DIS President.
We are striving to make our library available to the members through the website. There is now a link to the Lyle Jenkins Library under the Members Only area. These books were a collection of Art Spangler, Lyle Jenkins, P. H. Mani and Keith Millis.

Also staying with the website, everyone should have now seen our new look. Thanks to Susie for starting up the “Ask The Experts” program again and it too is under the Members Only area. Keep watch on the website periodically because you will stay in touch with up-to-date news and the calendar of events.

This current fiscal year to date, we gained the following new members.

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<td>Willman industries</td>
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<td>Ferroloy inc.</td>
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<td>Blackmer foundry</td>
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<td>The Modal Shop</td>
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<td>Joyworks LLC</td>
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<td>Hoosier Pattern</td>
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Re-joining the DIS was:

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<td>Renaissance Manufacturing Waukesha</td>
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We lost 3 foundry members and no associate members.

During this past year we held two general meetings. The first one was our Annual meeting held in Lake Geneva, WI in conjunction with a tour of Dura-Bar in Woodstock, IL with 122 attending including 16 guests.

The second meeting held last October was the 2015 fall T&O meeting held in Baraboo, WI at the Ho-Chunk Casino in conjunction with a tour of MPG’s Grede Reedsburg foundry. The attendance for that meeting was 153 including 21 guests. We also had 12 university students attend this meeting.

The Ductile Iron Marketing Group was once again busy by attending the Gear Expo 2015 at Cobo Center in Detroit, MI from October 20-22, 2015. Thanks to
John Lewensky and many folks from Applied Process for donating their time to man the DIS booth. Also the DIMG held their 2nd "Design with Ductile Iron Seminar" at the Ho-Chunk Casino and the Fall T&O meeting. It was attended by 28 individuals from non-DIS and DIS members. This is an opportunity to help our foundry members and their customers understand more about the production of ductile iron.

Four Keith D. Millis Scholarships were awarded at the 2015 FEF College Industry Conference held on November 19 & 20, 2015 at the Westin Hotel in Chicago. I would like to thank John Keough of Applied Process/Joyworks LLC and Gary Gigante of Waupaca Foundry for selecting the students. They were David Breunig of Wisconsin-Platteville, Devan Denney of Pittsburg State, Adam Foreman of the University of Northern Iowa and Jake Johnson also of the university of Northern Iowa. Each student received $3000.

Once again this year’s CIC Conference is in November at the Westin downtown Chicago and we will again hand out $12,000 in scholarships to 4 deserving students.

Your society continues to make a donation to the Keith Millis Scholarship Fund every year so it will continue to grow. This past year we made a one time donation of $40,000 to bring our total giving to $355,000.00.

Jim Wood and Pete Guidi attended this past year’s awards luncheon. We also had a table top booth for the industry information session where we distributed the “Don't Be a Flake, Ductile Bends, But Does Not Break” T-shirts.

Also we would like to thank those members who sponsored these T-shirts. They are Applied Process, Allied Mineral Products, ASI International, ASK Chemicals, Buck Company, Benton Foundry, Dotson Iron Castings, Dura-Bar, Elkem, Midvale Industries, Ferropem/Ferroatlantica, Foseco, Globe Metallurgical, Superior Graphite, Hitachi Metals Automotive Components, Hickman, Williams & Company, Magma Foundry Technologies, St. Marys Foundry, ABP Induction, Cadillac Castings and Waupaca Foundry. Also i should mention the hard work by your University Relations Committee members.

Thanks go out to Brian Lewis and Pam Lechner for their invitation to attend this important conference.
The Ductile Iron Society held a Production Seminar back on January 19 & 20, 2016 at the Hilton Garden Inn at O'Hare Airport in Chicago. The attendance was 17 for this seminar. We were very delighted to see so many registered. Thanks go out to our very special instructors, Jim Csonka of Hickman, Williams & Company, Jim Wood of the DIS, Kathy Hayrynen of Applied Process, Dan Coyle of Magma Foundry Technologies, Dave Gilson of Sintercast and Andy Adams of Foseco.

The Research Committee met three times during the past year. We completed two projects and they just need to be posted. They were #52 - “Evaluation of the Influence of B, Si, and Inoculation in Counteracting the Effects of Increased Mn Levels on Varying Section Thickness of Ferritic Ductile Iron" by Rick Gundlach of Element Materials Technology, Justin Lefevre of Joyworks and Rob Logan of Elkem. The second project was #54 - "Pearlitic Ductile Iron and the Conflict with Boron" by Rick Gundlach of Element Materials Technology. Since the conclusions were not conclusive, the Research Committee at the January 2016 meeting recommended that we spend an additional $10,000 on this project for further testing. The Board of Directors approved the request. The Research Committee has requested that the Board approve $30,000 for discretionary funds to be used by FEF Universities to fund senior research projects.

In February 2016, Rio Tinto signed over the rights to their Ductile Iron Data Book to the Ductile Iron Society. We will now look into searching out an expert to review and edit the original work. Once completed it will be the property of the DIS. We hand out this book in the form of a hard copy, CD and to be a memory stick. Thanks to Rio Tinto.

We will now proceed with the annual business meeting.

We have 2 Associate members retiring from the Board of Directors as of June 30th. They are Christof Heisser of Magma Foundry Technologies and Dave Williams of ASI International. We would like to thank Christof & Dave for their participation and dedication to the society over the past 3 years.

If there is anyone that might be interested in volunteering their time to join the DIS Board of Directors, please let Jim Wood know.
To replace those retiring board members, the Nominating Committee recommends the following slate to serve on the Board of Directors for a 3 year term effective July 1, 2016;

Rob Logan of Elkem Metals (Associate member)
Michael Looby of Inductotherm (Associate member)

To fill the empty position of Vice-President of the DIS, the Nominating Committee recommends for a 2 year term effective July 1, 2016;

John Davies of Lethbridge Iron Works (Foundry member)

To fill his empty position on the Board the Nominating Committee recommends for a 3 year term effective July 1, 2016;

Matt Meyer of Kohler Company (Foundry member)

The attendees voted unanimously to approve the slate.

I declare that this annual meeting is now adjourned.

Thanks,
Mike Galvin
June 2, 2016

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At the banquet on Thursday evening, Mike Galvin was the master of ceremonies and his first function was to introduce the guests who came to attend this meeting. They were;

Yulong Zhu of Dana Corporation  
Stephen Miller of North Atlantic Iron Corporation  
Harry Tian of Georgia Iron Works

Mike then presented membership certificates to the following new members of the DIS since the 2015 October meeting and the representative from the company attending the meeting.

Ferroloy, Inc. - no representative  
Blackmer Foundry - no representative

Mike then introduced Jim Csonka (Hickman, Williams & Company) the Thursday morning technical chair to come to the front for presentations of speakers gift to the morning speakers.

Rob Logan of Elkem Foundry Products
From Left, Mike Galvin, Cesar Braga of Aarrowcast, Inc., Jim Csonka & Jim Wood

From Left, Jim Wood, Mike Galvin & Dr. Martin Jones of Ford Motor Company

From Left, Jim Wood, Mike Galvin, Rebecca Ward of The Modal Shop & Jim Csonka
Rick Farrell of Tangent Knowledge Systems

Al Spada of the American Foundry Society

Mike then asked Kathy Hayrynen of Applied Process, the Friday morning session chair to assist in handing out the speaker gifts.
From Left, Jeremiah Fleischman & Sandy Calabrese of General Motors - Defiance, OH & Kathy Hayrynen

Joe Powell of Akron Steel Treating Company
From Left, Jim Wood, Mike Galvin, Nick Bugliarello of BlueWater Thermal Solutions & Kathy Hayrynen

From Left, Jim Wood, Mike Galvin, Gary Teise of Ajax Tocco & Kathy Hayrynen
From Left, Mike Galvin, Dr. Kathy Hayrynen of Applied Process & Jim Wood

Tim Hoyt of Allied Mineral Products
Mike then asked the following Board of Directors who were retiring to come to the front to receive their certificates of appreciation for serving on the Board for the last 3 years; Christof Heisser of Magma Foundry Technologies (absent) Dave Williams of ASI International (absent). Mike also introduced the new directors and Vice President as mentioned earlier in this article.

**DIS MEMBER OF THE YEAR AWARDS**

This was a special evening as the DIS celebrated the “DIS Members of the Year" to two very deserving members. The "Member of the Year" is presented to any DIS member who has gone beyond the norm in service to the society through technical support. This year the DIS felt that two gentleman deserved the owner to be awarded at the same time. They are Matthew Meyer of Kohler Company and Serge Grenier of Rio Tinto for their work on the ASTM Ductile Iron Image Analysis Standard. To introduce the awardees are Jim Wood and Kathy Hayrynen. Jim Wood introduced Serge Grenier.

Serge Grenier obtained his bachelor degree in metallurgical engineering from McGill University, in Montreal, Canada, in 1989. He then completed a Master degree in Material Science, also from McGill University, on the production of silicon nitride powders by the carbothermal reduction process. In 1996, Serge obtained his Ph.D. from Ecole Polytechnique, in Montreal, Canada, on the deposition of titanium nitride films using a reactive thermal plasma process.

Since then, Serge has worked 24 years in a wide variety of materials science fields related to metallurgy such as, production of nano-materials by high
energy ball milling or arc-evaporation techniques, thermal plasma coatings, hydrogen storage systems and ultra-pure materials using the zone refining technique. He holds 8 patents and is the author of several technical papers on various metallurgical topics.

Serge joined Rio Tinto 6 years ago where he presently holds a research engineer’s position in the Ferrous Products Group.

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Kathy Hayrynen of Applied Process then introduced Matt Meyer next.

Matt Meyer earned a BS in Metallurgical & Materials Engineering with a specialization in Extractive Metallurgy from Michigan Technological University. He spent the early part of his career in Michigan starting with Cleveland Cliffs in the Upper Peninsula followed by a stint with Hickman-Williams in Detroit before returning to the UP to become the Plant Metallurgist at the Grede-Iron Mountain facility.

In 2002, Matt became a full-time graduate student at the University of Wisconsin in Madison and was subsequently awarded two Master of Science degrees, one in Environmental Chemistry and Technology and the other in Civil and Environmental Engineering. After graduation, Matt worked for RMT, an environmental engineering and consulting firm but it wasn’t long before he was drawn back to the foundry, accepting a position as a Technical Process Engineer at the Grede Reedsburg Facility.
In 2006, Matt was promoted to Technical Director of the Grede-St. Cloud foundry where he served until the 2009 recession. Matt then joined Bremen Castings where he served as Technical Director until June of 2014.

In 2014, Matt joined the Kohler Company where he manages the central Chemical and Metallurgical Laboratory for the Corporation.

Matt is the Secretary of the AFS Cast Iron Executive Committee, Vice-Chair of Programming and Papers for the Cast Iron Division as well as a Past Chair of the Cast Iron Research Committee. Matt is, also, a Director of the AFS Wisconsin Chapter where he chairs the Energy, Environment and Engineering Subcommittee.

Matt is an active member of the DIS Research Committee and has presented technical talks at several DIS T&O Meetings. He recently joined the Board of Directors of the DIS.

Matt and his wife Jennifer have four wonderful daughters, ages 5 to 13. They live in Sheboygan, WI. Tonight, we recognize Matt for his work with the ASTM E04 Quantitative Metallography Committee to develop a working standard method for the determination of nodularity and nodule count in ductile iron using image analysis.

The ASTM Metallography Committee created a specification that would have a huge impact on our industry. Unfortunately, it was created by metallographers who had no knowledge of the production of ductile iron. Action needed to be taken and Matt stepped up to work to make a standard that is truly functional.

Standards work is an absolutely thankless job of spending many hours wading through complex politics to negotiate a sensible solution. Matt, along with Serge Grenier, has championed an important cause for our industry. And it is because of this, that we honor his contributions to our Society.
Our next award for the evening was the "Lifetime Achievement Award" which is awarded to a DIS Member who has shown over the years their service and dedication to the Society. This year's award goes to Frank Headington of Neenah Foundry. Mike Galvin asked Lyle Heberling, Executive Director of the ICRI to introduce Frank.

Frank Headington

Frank received his BS in Metallurgy in 1972 from the University of Missouri - Rolla. Subsequently he also received MS degrees in both Ceramics and Industrial Management. He is also a ASQ Certified Quality Engineer.

Frank began his career as a Staff Metallurgist for Wagner Castings Company in Decatur, IL from 1972 - 1978. He also worked at John Deere Foundry in Waterloo from 1979 - 1981 as a Quality Engineer. In 1981 Frank returned to Wagner-Decatur as Melt Foreman and held subsequent positions as Assistant Manager, QA and Quality Manager in leaving Wagner in 1986.
Frank then co-founded Sintered Precision Components in Decatur, IL and worked there until 1989. In 1989 Frank started at Neenah Foundry in Neenah WI as Manager Melt & Technical Services Plant 1. In 1991 he became the Director of Product Reliability, in 1997 VP Marketing & Product Reliability and in 2000 VP Technology.

Frank has served on the AFS SPC, Gating & Risering, Heat Treating, Board of Directors and the Research Board as well as holding chapter positions both in Illinois and Wisconsin. He has served many years on the Research Committee and the Board of Directors of DIS and the Technical Committee, Board of Directors and was President of ICRI on three occasions.

Frank has presented many papers at AFS, DIS and ICRI over his career and was the AFS Peter Simpson Gold Medal recipient in 2016.

Frank and his wife Barbara live in Neenah, WI.

CONGRATULATIONS to all three members!!!

Also at the Banquet we awarded Bob O'Rourke for his service for one year as the Past President. Bob had to give up his Presidency as he moved to China.
On Friday, June 2nd the group went on a tour of General Motors Defiance, OH plant in Defiance, OH. Sandy Calabrese gave a brief description of the plant, safety instructions and company history.

Thanks to Sandy & Jeremiah along with all the other folks from General Motors Defiance that assisted in the arrangements for the tour.
This concluded the 2016 Spring Annual Meeting in Perrysburg, OH. There were 122 in attendance and we wish to thank every one of them and their companies for allowing them to attend. We hope to see everyone at the Fall 2016 World Conference on Austempered Ductile Iron to be held at the Westin Peachtree Hotel in downtown Atlanta, GA from October 26-28, 2016. Because this is a conference, there will be no arranged tour. The tour will be replaced with 15 technical talks from all over the world on ADI.

Jim Wood
DIS Executive Director
July 14, 2016
THURSDAY AFTERNOON SESSION SPEAKERS AND PRESENTATIONS

LINK TO ROB LOGAN'S PRESENTATION

Rob Logan

Rob graduated with his BSC degree in Materials Science and Engineering in 1988 and his MBA in 1994 from McMaster University in Hamilton, Ontario, Canada. In 1988 Rob started his career at Dofasco-ArcelorMittal and he worked as their Production Engineer and Technical Sales Engineer for 6 years. In 1994, Rob joined Wescast Industries and for over 14 years worked as their Metallurgist, Engineering Manager, Process and Quality Manager and Research and development Manager. In 2008, Rob joined Elkem Metals Inc., Foundry Division as National Account Manager in Canada but is active in Customer Technical Service throughout the Americas.

Rob has published and presented many papers at SAE, DIS and AFS in the Americas, Europe and Asia. He is an active member of the DIS Research Committee and is the current Chair for the Ontario AFS Chapter.

The DIS welcomes Rob who is here to talk about "Solution Strengthened Ductile Iron"

BACK TO BASICS PANEL - NON-DESTRUCTIVE EVALUATION

LINK TO CESAR BRAGA’S PRESENTATION

Cesar Braga

Cesar graduated with his Metallurgical Engineering degree from Brazil and then moved to the USA. He has been a citizen of the USA since 2009. Cesar has been at Aarrowcast for the last 17 years and currently is the Vice-President of Materials and Processing Engineering. Prior to that, he worked for 11 years with special steels, open die forging, hot rolling, cold drawing and heat treatment at Villares Metals in Brazil, 3 years at METSO Brazil as Quality Manager and 3 years at Teksid Brazil Aluminum Foundry (FIAT). Cesar has given many presentations at previous DIS Meetings and ICRI Meetings.
The DIS welcomes back Cesar who is here to talk about "Sonic Test for Nodularity for Evaluation of Ductile Iron Castings"

LINK TO MARTIN JONES' PRESENTATION

Dr. Martin Jones

Martin has been with Ford Motor Company for 16 years. He is Ford’s technical specialist for nondestructive evaluation and manages the NDE Lab. In his past lives, he worked at Los Alamos National Lab and taught for the Department of Electrical Engineering at Utah State University. He holds three degrees in Electrical Engineering, including a Ph.D., and one in Japanese language.

Martin enjoys astronomy and flying, and oddly enough, giving tours and talks about his NDE activities.

The DIS welcomes Martin who is here to talk about "Use if CT Scanners"

PRESENTATION NOT AVAILABLE

Rebecca Ward

Rebecca Ward serves as an Application Engineer and International and Key Account Sales Manager for the NDT group at The Modal Shop in Cincinnati, OH. Her experience in various metal applications allows her to specify NDT solutions for a multitude of projects. Through her extensive work with the automotive OEM’s and Tier 1’s, Ward has gained an in-depth knowledge of the challenges associated with zero defect production. She brings a focus to helping customers ensure quality shipment and improve operational efficiency. Ward holds an AS in Mechanical Engineering Technology and a BS in combined Civil and Environmental Engineering Technology.

The DIS welcomes Rebecca who is here to talk about "Investigation Steps for Proper Detection of Ductile Iron Nodularity Using Resonant Inspection"
LINK TO RICK FARRELL'S BOOK "DEATH OF A SALESMAN"

Richard P. Farrell is President of Tangent Knowledge Systems, a Chicago sales training company, and the author of the book; Selling Has Nothing To Do with Selling. He is the unofficial record holder for the number of B2B association speaking engagements (manufacturers, distributors, wholesalers, professional services, manufacturers representatives, service providers). He has covered virtually every SIC code when speaking to associations and even ones that he swears don't even exist. His in-depth knowledge of the sales challenges of small to midsize companies (commoditization, price pressure, new market opportunities, transactional selling, poor sales accountability, unqualified sales pipelines, ineffective new business generation, long selling cycles and increasing cost of sales) is unparalleled.

He will debunk the time-honored beliefs and strategies that organizations hold so dearly and expose the obscene cost of sales that they blindly operate under. Content is nontraditional, contrary and designed to be a wakeup call for all organizations on how to sell, strategize and position their companies to meet the harsh realities of the information economy, and the challenging economic climate of today's marketplace.

The DIS welcomes Rick who is here to talk about "Selling Has Nothing to do With Selling; How to Sell in the Age of the Information Economy"

PRESENTATION NOT AVAILABLE

Al Spada

Alfred Spada is Editor/Publisher of Modern Casting and Metal Casting Design & Purchasing magazines and AFS Vice President Business Development. Spada is a graduate of Northwestern Univ. and has an MBA from the Univ. of Colorado. Spada entered the metalcasting industry in 1997 as an editor for Modern...
Casting. His previous experience was in journalism and communications as an editor for Pro Football Weekly magazine. Spada has spent his 17 plus years in metalcasting visiting metalcasting facilities across the globe and writing about the industry from both a technical and management perspective.

In addition to his role with AFS and its magazines, Spada serves as Publisher for the International Journal of Metalcasting and has edited two books on metalcasting—the Iron Casting Engineering Handbook and Metal Casting Design & Purchasing.

Spada regularly speaks to both metalcasters and casting buyers about the present and future of the global metalcasting industry, casting applications and casting design. Al has given many previous presentations to the DIS.

The DIS welcomes back Al who is here to talk about "The State of the Foundry Industry".

MORNING SESSION SPEAKERS AND PRESENTATIONS

PRESENTATION NOT AVAILABLE

Sandy Calabrese

Sandy began her metal casting career at Michigan Technological University where she earned a Bachelor’s Degree in Mechanical Engineering and a Master’s Degree in Metallurgical Engineering. She joined the General Motors team in 1995 where she has held numerous assignments in quality, engineering, manufacturing, maintenance, and lean manufacturing. She has been an active leader in the American Foundry Society and Foundry Educational Foundation. She also serves as Committee Chair and Den Leader for Pack 191 in Bryan Ohio where she lives with her husband Marcel and her two boys, Joey and Philip.
Jeremiah Fleischman

Jeremiah began his metal casting career at Western Michigan University where he earned a Bachelor’s Degree in Materials Science. He then went on to earn his Master’s Degree in Manufacturing Operations from Kettering University. He joined the General Motors team in 1999 where he has held assignments in engineering, manufacturing, melting, and metallurgy. He is active in his community and church, where he teaches an adult Sunday morning class and plays guitar in the band. He lives in Defiance, OH with his wife, Becky, and 3 daughters, Tobiah, Addison and Elliot.

The DIS welcomes Sandy and Jeremiah who are here to talk about "The Boron Story"
HEAT TREATMENT PANEL

LINK TO NICK BUGLIARELLO'S PRESENTATION

Nick Bugliarello

Nick studied welding and worked as a welder/fitter in Victoria Texas, starting in 1981. He became more interested in what was happening in the metals and went to school for metallurgy. He graduated in 1990 from the University of Minnesota with a BA of Extractive Metallurgical Engineering, and has worked in the commercial heat treating industry ever since. He worked at Fred Heinzelman & Sons, Inc. in Carlstadt, NJ from 1990 to 1995 holding various positions (Quality Manager, Chief Metallurgist, Maintenance Manager, and Plant Manager). He worked from 1995 thru 1999 at Pennsylvania Metallurgical, Inc. in Bethlehem, PA as Quality Manager and Metallurgist. He owned and operated Heinzelman Heat Treating, LLC from 2000 thru 2007. He was General Manager at Bodycote Thermal Processing, Melrose Park, IL from 2008 through 2010. In 2010 he went to his current position as General Manager of Bluewater Thermal Solutions, Chicago Plants 1 & 3 in Northlake, IL and Melrose Park, IL respectively. He has been involved in R&D and process development of high volume boriding since 2007, along with his other managerial and metallurgical duties.

The DIS welcomes Nick who is here to talk about "Annealing, Stress Relieving & Normalizing"

LINK TO GARY TEISE'S PRESENTATION

Gary Teise

Gary Teise started with TOCCO Inc. in 1980 before Park Ohio the corporate office acquired Ajax Magnethermic in 2003 with the marriage resulting in the formation of AjaxTocco Inc. His corporate office has also added to their induction portfolio induction companies such as Lectrotherm in 2005, Pillar Induction in 2008 and SEAT in 2015.
Gary has served in many capacities within the organization throughout his 36 years with the organization. He has worked in the induction development lab, service department, training instructor, supervising an inductor coil and mfg center and Commercial Heat Treat facility. Gary is currently the district sales engineer in a 5 state region which encompasses IL, KS, MO, NE and IA. Gary’s induction background includes Process Heating and Tempering, Forging and Melting applications.

Gary lives in Indianapolis, IN, married to his wife, Belinda for 21 years and has two daughters Chloe and Olivia and Cain his son.

The DIS welcomes Gary who is here to talk about "Induction Hardening".

**LINK TO KATHY HAYRYNEN'S PRESENTATION**

**Dr. Kathy Hayrynen**

The DIS welcomes Kathy who is here to talk about "Base Iron for Austemper Ductile Iron"

**PRESENTATION NOT AVAILABLE**

**Tim Hoyt**

Tim has worked at Allied for 18 years. Currently, he acts as a technical liaison between the Research, Design Engineering and Sales groups supporting Allied’s global efforts. Prior to being in the Product Services group, Tim spent his first 7 years in the Application Design Engineering group designing refractory systems and held the position of Applications Engineer.

Typical responsibilities for Tim include coordinating and facilitating refractory information seminars, providing technical assistance in the installation and application of refractory material as well as troubleshooting applications. Tim has presented a number of Cast EXPO and Metal Casting Congress panel discussions on various channel furnace related topics. The DIS welcomes Tim who is here to talk about "The Science Behind Refractories".
IMPROVED INOCULATION IN TODAY'S IRON FOUNDRIES

1. Increasing cell count in grey iron, especially for thin section castings
2. Understanding the sulfur effect in treated ductile iron for a given magnesium content
3. Why you should improve standard calcium bearing 75% ferrosilicon inoculation in cast irons

When pouring grey and ductile iron castings, the development of the proper graphite morphology is critical for meeting desired physical properties. To achieve the desired graphitization and shape, it is mandatory to have sufficient “seeds” (nuclei) within the molten iron to provide for proper graphitization. The inoculation procedure of these irons provides for the necessary “seeds” to form.

READ MORE>>>
18th Global Foundry Sourcing Conference 2016
Was Successfully Held in Shanghai

18th Global Foundry Sourcing Conference 2016, China Casting Exporting Conference and China Foundry Conference were successfully held at Shanghai Everbright Int'l Hotel during April 20-21. It was organized by Suppliers China Co., Ltd., co-sponsored by National Technical Committee 54 on Foundry of Standardization Administration of China. The event aims to build a procurement negotiation, market analysis, technical communication platform for foundry industry. The conference attracted more than 600 delegates at home and abroad. Activity information is as following:

China Casting Exporting Conference in the morning of April 20

As we all know, China is the world's largest casting production and consumption country, but the proportion of casting exports only accounts for 10%, which is mainly concentrated on low-end products. In recent years, due to the stagnant global economic environment, multinational corporations have showed the weak demand for castings; the buyers have carried out cost reduction plans such as transfer the low added-value casting purchase orders from China to Southeast Asia and other countries with cheaper labor. Casting production enterprises in China not only have suffered the lower demand from buyers, but also faced the pressure of capital, labor and environmental protection. The advantage of low cost in Chinese foundry industry is gradually disappearing. If we don't improve labor productivity, casting quality, reduce the cost of production, change the competitive strategy, the brutal market will ruthlessly eliminate a large number of enterprises which are not competitive.

How to survive under the new economic situation? Casting production enterprises hope that they can negotiate with multinational buyers with procurement projects, as well as can know the latest purchasing trends, multinational procurement processes and supplier audit standards. Casting production enterprises also hope to learn from advanced experienced enterprise, in order to enhance the comprehensive strength of the enterprise, undertake more quality orders, expand export share, and improve product added value.
According to the demand of China casting export enterprises, FSC prepared this academic activity during the 18th Global Foundry Sourcing Conference, invited industry senior experts, multinational buyers, and casting production enterprises to make a report from the point of "export of casting". The followings are the topics:

Senior experts -- Chinese Academy of agricultural mechanization, former vice president Mr. Zhang Boming made a presentation with the topic of "Problems Encountered in the Casting Export Process and the Countermeasures For it". He analyzed the domestic casting industry export situation and the underlying causes and the common problems encountered in exporting. Mr. Zhang also analyzed the reasons for three European buyers failed in Chinese supplier development, and put forward some suggestions for domestic enterprises. Mr. Zhang’s report was close to reality, thus won the unanimous praise from participants.

Senior experts -- National Technical Committee 54 on Foundry of Standardization Administration of China deputy secretary Mr. Zhang Yin made a presentation from the points of foundry industry national standard, international standard, domestic and international standard differences. Mr. Zhang hopes to provide support technical standards for casting export enterprises by raising the level of standard service, and suggested that capable enterprises can actively participate in the revise work of foundry industry national standard, to enhance the enterprise’s soft power.

Overseas buyer -- Canadian Ferrotech Menard, Inc. CEO -- Mr. Yves Menard has been engaged in casting procurement for nearly 20 years in China and has a rich procurement experience. The purpose for this trip to China is to analyze Chinese parts procurement trend, advantages and disadvantages of Chinese foundry enterprises, opportunities and challenges from the view of the North American buyers with the actual procurement case analysis. He also proposed some comments and suggestions for the development of Chinese foundry enterprises.
China Procurement Center of Multinational Group -- Sulzer purchasing manager Mr. Su Dayong made a report about "Supplier Development Process for Multinational Groups". With 7 years foundry production experience, 14 years of casting supplier development and supply chain management experience, Mr. Su introduced in detail the six channels of multinational supplier development, seven standards of supplier evaluation, the composition of procurement team personnel, the division of functions and supplier audition as well as supplier maintenance process, to help the domestic foundry enterprises understand the international group procurement process and facilitate their deal with buyers.

Domestic large-scale buyer -- from purchaser's viewpoint, purchasing manager Mr. Zhang Mingzhe from Yutong Group gave an in-depth analysis about quality, cost, delivery, service and technology. He did a report on "Casting QCDTS" and offered comments and suggestions to the suppliers.

Ms. Emma Kombrinkof from Latin America Markets, LLC did a specific report on “Latin America Casting Exporting Situation and Market Development Suggestions", hoping to help domestic enterprises explore Latin America market.

Mr. Birger Vinck from German Vinck Agency for Consulting and Trading (VACT) shared his ideas from marketing, procurement and technology about successful casting procurement and foundry new trends. To meet Chinese foundries demand, he also introduced the trend and development of German casting industry, the differences between Chinese and German foundries, the internationalization of Chinese foundries and investment.

Excellent casting exporting enterprise -- manager Mr. Wang Rui from Impro (China) Co., Ltd. introduced the company’s improvement and internationalization process. Having founded for 18 years, its global sales in 2015 is 400 times that of the start, which is a model for Chinese suppliers.

We have excellent reports in the morning where industry experts, buyers and suppliers shared reports centered on "casting exporting" and gave suggestions
to exporting enterprises. We hope that casting exporting enterprises attach more importance on the market, analyze transnational purchasing trends, actively expand the overseas market and become more familiar with international trade rules. Thus, they can occupy a favorable position in the global castings market and get more say in international trade.

The FSC China Foundry Conference was held on April 20 in the afternoon

The China Foundry Conference made a communication about the new material, new technology, new process, new equipment on the foundry industry. It includes:

3 lectures of “new technology, new process”

The organizer invited the senior engineer Mr. Huang Yimin of Shanghai Yuanda Cleaning Equipment Co., Ltd. to do a lecture about Anti discoloration of aluminum casting and anti mildew, the manager Mr. Li Jinliang of Xuzhou Feiyun Foam Manufacturing Co., Ltd. did a lecture about how to control lost foam casting; the manager Mr. Zhang Guanghe of Guangyi Mining Products Group Co. Ltd. did a lecture about The relationship between the casting inclusion and the casting material. Three experts introduced the “new technology, new process” of foundry industry, hoping to provide technical support for casting export enterprises.

7 lectures of “new material, new equipment”

Shengquan Group, FOSECO Cast Material (China) Co., Ltd., Elkem International Trade (Shanghai) Co., Ltd., Henan Tongbaishan Kyanite Mining Industry Co., Ltd., Tianjin Huifeng Thermo Sensor Equipment Co., Ltd., Beijing Aoyuksin Surface Engineering Technology Co., Ltd., and Shimadzu International Trading (Shanghai) Co., Ltd., 7 enterprises did the product’s introduction of “new material, new equipment”, hoping to provide material and equipment support for casting export enterprises.

1 lecture to promote the foundry“four-new”communication

Mr. Qu Xueliang, the deputy editor of Foundry Journal, took the example of Foundry Journal, CHINA FOUNDRY, did the lecture about Role of Scientific and Technical Journals in Foundry Technological Development and Innovation.
The organizing committee responsible person said: FSC will be based on the requirements of casting export enterprises of new materials, new technology, new process, new equipment (four-new), to build a global casting "four new" communication platform, introducing the international "four new" into China. Casting export enterprises in China through the application of casting new materials, learning cast new technology, casting new technology and new equipment to enhance the company's level of casting, improve the management, to shorten the development cycle of a new project, production yield improvement and maintain the quality consistency, and improve casting quality, reduce the production cost in order to achieve the transformation and upgrading of the company, to raise the added value of the product and increase profits.

There are over 90 international purchasing companies in the conference. Delegates from Eaton Corporation, ZF Drivetech (Hangzhou) Co., Ltd., Compass Technical Services, Inc., Ferrotech Menard, Inc., and Paragon Metals Inc. made speeches to introduce their procurement programs. FSC has invited more than 340 foundries from home and abroad to meet the purchasers. Suppliers from Dongfeng Automobile Co., Ltd. Foundry Branch and Toyo KM JS Co., Ltd. made speeches of introducing their main products and company power.

The negotiation time in the afternoon was purchaser-focused. Each buyer was offered a negotiation table to face-to-face talk to suppliers. FSC organized appointed negotiation zone and free negotiation zone, which also be separated into ferrous metal zone and non-ferrous metal zone. FSC started business-match service three months before conference, which helped save time for both suppliers and buyers during conference.

FSC expresses that they will build a communication platform--foundry sourcing conference as well as build a casting experts team, which includes casting technology experts, casting production experts, casting procurement experts, supply chain management experts, quality inspection experts, and logistics experts. FSC will offer casting suppliers and purchasers more and more detailed and professional service, and contribute for China's casting upgrading and sustainable development.

Suppliers China Co., Ltd.
NEWS BRIEFS, Cont'd

Contact Us

China Foundry Conference 2016
Sep 21, 2016  Grand Regency Hotel, Qingdao, China
China Casting Exporting Conference 2016
Sep 21, 2016  Grand Regency Hotel, Qingdao, China
19th Global Foundry Sourcing Conference 2016
Sep 22, 2016  Grand Regency Hotel, Qingdao, China

Suppliers China Co., Ltd. (SC)

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CONGRATULATIONS

Class of 2016

Just a FEW of the many FEF graduates who have found jobs in the metalcasting industry

Dustin Arvola
Trine University
Steel Dynamics intern seeking Masters

Caroline Moore
Alabama-Tuscaloosa
General Motors

Alex Rasch
Wisconsin-Platteville
Castalloy

Ray Griffith
Mohawk College
Dominion Pattern Works

Alex Brown
Virginia Tech
Alcoa Howmet

Peter Leblang
Western Michigan
Betz Foundry

Paul Wright
Penn State
Inductotherm

Topiltzin Gonzalez
Teck Satllilo
Cifunsas

Ashley Durrbeck
Virginia Tech
Klune Industries

Dylan Stasko
Trine University
General Motors

Elaina Hodges
Missouri Univ. of Sci & Tech
Amsted Rail

Karl Warsinski
Michigan Tech
St. Mary’s Foundry

Casey Iossi
Northern Iowa
Neenah Foundry

Kelly McCool
Alabama-Birmingham
Lodge Manufacturing

Passionate and eager about metalcasting
WE ARE... 2016 FEF Graduating Students

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The report provides an in-depth analysis of the U.S. iron foundries market. It presents the latest data of the market size and volume, domestic production, exports and imports, price dynamics and turnover in the industry. In addition, the report contains insightful information about the industry, including industry life cycle, business locations, productivity, employment and many other crucial aspects. The Company Profiles section contains relevant data on the major players in the industry.

Countries coverage: the U.S.

Product coverage:
Ductile iron pressure pipe and fittings; Other ductile iron castings; Cast iron pressure pipe and fittings; Cast iron soil pipe and fittings, all sizes; Other gray iron castings; Standard malleable iron castings; Pearlitic malleable iron castings; Molds and stools for heavy steel ingots

Companies mentioned:
NEWS BRIEFS, Cont'd


Data coverage:
- Market size;
- Domestic production, value of shipments;
- Key market players and their profiles;
- Exports, imports and trade balance;
- Import and export prices;
- Forecast of the market dynamics in the medium term;
- Key industry statistics;
- Life cycle of the industry;
- Number of establishments and their locations;
- Employment data;
- Industry productivity.

Reasons to buy this report:
- Take advantage of the latest data;
- Find deeper insights into current market developments;
- Discover vital success factors affecting the market.

Amy Cole, Senior Manager

Research and Markets, Guinness Centre, Taylors Lane, Dublin 8, Ireland.

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U.S. (TOLL FREE) EAST COAST U.S. REST OF WORLD
Global production of molybdenum decreased to 117.8 million pounds in the first quarter of 2016, down 5% from 124.1 million pounds in the previous quarter, and down 7% compared with the same period in 2015. Global use of molybdenum in the first quarter also fell to 121.2 million pounds, down 2% from 123.7 million pounds in the previous quarter and down 6% compared with the same period in 2015, figures released today by the International Molybdenum Association (IMOA) show.

South America remained the biggest producer, with 44.6 million pounds in the first quarter of 2016, down 1% from 45.1 million pounds in the previous quarter, but 33% greater than in the same period in 2015. Production in China fell from 39.5 million pounds in the last quarter of 2015 to 34.7 million pounds in the first quarter of 2016, a fall of 12%, and 22% less compared to the same period in 2015. Production in North America was 25.2 million pounds in the first quarter, down 12% from 28.8 million pounds in the previous quarter, and 33% less than in the same quarter in 2015. Production in other countries increased by 24% to 13.3 million pounds.

China remained the biggest user, at 38.6 million pounds in the first quarter of 2016, down 10% from 43.1 million pounds in the last quarter of 2015, and a fall of 13% compared to the same period in 2015. Europe was the second largest user at 33.4 million pounds, down 4% from 32.5 million pounds in the previous quarter, but up by 3% compared to the same period in 2015.

Usage in the USA was 13.8 million pounds, down 3% from 13.2 million pounds in the last quarter of 2015, but an increase of 4% compared to the same quarter in 2015, while usage in Japan fell by 7% to 11.9 million pounds, 11% less than in the same period last year. Usage in the CIS countries decreased slightly from 5.1 to 4.9 million pounds, while usage in other countries increased from 17.1 to 18.7 million pounds. - Alan Hughes
SinterCast launches new Ladle Tracker™ technology at Annual Shareholder Meeting

- Unique foundry technology for process optimisation, quality control and traceability
- Applicable to grey iron, ductile iron, Compacted Graphite Iron and non-ferrous foundries
- First system in use for high volume series production at Tupy Saltillo foundry, Mexico

**Every Ladle, Every Minute**

*RFID Tags affixed to ladles  RFID Antennae located at key positions in the foundry*

(Stockholm, 19 May 2016) – Following successful product development and the commissioning of the first series production installation at the Tupy foundry in Saltillo, Mexico, SinterCast today takes the opportunity of its Annual General Meeting to formally launch its new Ladle Tracker™ technology.

The SinterCast Ladle Tracker™ technology monitors and records the progress of each ladle as it progresses through the foundry. A robust Radio Frequency Identification (RFID) tag is affixed to each ladle and RFID reader antennae are installed at key locations throughout the foundry, such as furnace tapping, treatment stations and pouring. The Ladle Tracker™ technology documents the time of the ladle at every position; ensures that every ladle reports to every step in the process; and, ensures...
that each step is completed within the allocated time. Peripheral information can also be incorporated into the process database, including temperatures, ladle weight, wirefeeding results and chemistry. The flexible hardware platform can be configured to suit the layout, process flow, and production volume of any type of foundry, in the cast iron industry or beyond. The main features and process opportunities of the Ladle Tracker™ technology include:

**Process Security:** Real-time process control to ensure that every ladle reports to every station and that time limits are adhered to, including automated lock-outs.

**Process Optimisation:** Daily, weekly and/or monthly reports of ladle movement to identify where and why ladles drop-out of the process and to identify and resolve process bottlenecks.

**Process Improvement:** Establish production KPIs to link operator performance directly to productivity and to quantitatively measure process improvements.

**Process Traceability:** Ladle movement and process data (temperatures, weights, chemistries, wirefeeder data) can be uploaded to the foundry database for process traceability and customer assurance. No information is stored on the RFID Tag.

**Remote Office Display:** Foundry supervisors and managers can view real-time process data on remote computers via internal network connections.

“The Ladle Tracker™ technology provides a new opportunity for foundry managers to measure, control and improve process flow and productivity” said Dr Steve Dawson, President & CEO of SinterCast. “Our longstanding focus on Compacted Graphite Iron (CGI) process control has led to our company mantra: “you can’t control what you can’t measure”. Now, we are bringing new measurement capability to other areas of the foundry to improve process control, productivity and confidence. We look forward to introducing the Ladle Tracker™ technology, both as a complement to our core CGI technology and as a stand-alone product to provide additional insight and assurance for foundry managers.”

For more information:

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NEWS BRIEFS

Right People ... Right Jobs ... Right Time

Planning Your Future Workforce?

Find the RIGHT PEOPLE through FEF schools
Top engineering & technology programs with metalcasting emphasis
Practical, hands-on training led by an FEF Key Professor
Degrees in a wide range of technical disciplines

Your available resources
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  post internship, co-op, and entry-level jobs
• The College Industry Conference (CIC)
  recruiting and career-resource event
• Direct involvement with an FEF program
  visit http://fefinc.org/our-schools.html

Supporting Workforce Planning ... We Are FEF