
The Keith Millis Symposium held on October 15-17, 2013 in Nashville, TN was a great success. This 5th Symposium was co-sponsored by the AFS and special recognition goes to Jami Crouch and Scott Lammers of the American Foundry Society (AFS). Also as part of the Ductile Iron Society (DIS) organizational group we need to recognize the efforts of Susie Lambert of the Iron Casting Research Institute (ICRI), John McGoldrick of Hodge Foundry, and Kathy Hayrynen of Applied Process.

As Keith Millis wished, the proceeds of the Keith Millis Symposium are to be donated to the Keith Millis Scholarship Fund at the Foundry Educational Foundation (FEF). This time around both the DIS and AFS made substantial contributions to each of their scholarships. Both checks were presented to the FEF during the FEF College Industrial Conference in Chicago on November 22, 2013.

The turnout for the Keith Millis Symposium was 218. This was the 3rd largest turnout in the past 5 Symposia. It was only 20 attendees off from the best and 7 off the first Keith Millis. Thanks to all of the attendees for attending. There were 23 excellent technical presentations. Thanks again to all the presenters and staff that helped make this a great success.

Also, Keith Millis week started on Monday October 14th with the DIS Research Committee Meeting in the morning with 39 members in attendance. Then at 1:00 pm the four different operating committees Meetings which are the College & University Relations, Member Services, Program & Publications and Ductile Iron Marketing committees. All of these committees are looking for members to
participate, so if you would like to get involved, please contact Jim Wood at the DIS office.

The day finished with the DIS Board of Directors meeting at 3:00 pm.

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The Symposium started with Kathy Hayrynen’s keynote address: What Would Keith Say? The rest of the day was filled with nine other technical presentations. On Tuesday evening we ended the festivities with a reception.

Like the first day, on the second day there were ten more technical presentations.
That evening we held the banquet to award the speaker gifts, new DIS acknowledgement to Jami Crouch and Susie Lambert.

From left to right, Patricio Gil (DIS President), Jami Crouch, Susie Lambert and Jim Wood (DIS Executive Director)
The banquet was chaired by the DIS President Patricio Gil of Blackhawk de Mexico. Below are the new DIS Members who joined since the Spring 2013 meeting. The first certificate was presented to Sandy Calabrese of GM-Defiance, OH as a Research Patron.

From Left, Sandy Calabrese, Patricio Gil, & Jim Wood

Also joining the DIS was Triple M Metal as an Associate member and Andre Montrichard.

From the Left, Andre Montrichard, Patricio Gil & Jim Wood
The following speakers received their gift for their presentations. Thanks to Scott Gledhill of Waupaca Foundry for chairing the first session.

From the Left, Scott Gledhill, Kathy Hayrynen and Patricio Gil

Kathy opened the session with the Keynote Address: What Would Keith Say?

From the Left, Patricio Gil, Serge Grenier of Rio Tinto & Scott Gledhill

Serge spoke on “Inter-Laboratory Study of the Determination of Nodularity and Nodule Count of Ductile Iron by Image Analysis”
Cathrine spoke on “The Continuing Evolution of MgFeSi Treatments for Ductile Irons”

From Left, Patricio Gil, Michael Koch of FerroPem SAS & Scott Gledhill

Michael spoke on “New Inoculation Solutions Beneficial against Chunky Graphite in Ductile Iron Castings”
From the Left, Patricio Gil, Thorsten Reuther of Hofmann Ceramic GmbH & Scott Gledhill
Thorsten spoke on “Filtering a Heavy Section Ductile Iron Casting – New Opportunities”
Thanks to John McGoldrick of Hodge Manufacturing for chairing the afternoon session on the first day.

From the Left, Patricio Gil, Steve Dawson of SinterCast Ltd. & John McGoldrick
Steve spoke on “Thermal Analysis and Process Control for Compacted Graphite Iron and Ductile Iron”
Christof spoke on “Optimized Lifetime Prediction of Ductile Iron and CGI Castings”

Simon spoke on “Novel Approaches to Analyze the Structure of Ductile Iron”
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- FEF Keith Millis Scholarship Awards
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From the Left, Patricio Gil, Brian Pinto of Foseco and John McGoldrick

Brian spoke on “Iron Turbulence Analysis via Foundry Water Model I: Introduction”

From the Left, Patricio Gil, Al Alagarsamy of THORS & John McGoldrick

Al spoke on “Experiences in Identifying and Reducing Ductile Iron Casting Defects”
Thanks to Jim Csonka of Hickman Williams & Company for chairing the morning session on the second day.

From the Left, Patricio Gil, Rick Gundlach of Element Materials Testing & Jim Csonka

John Tartaglia of Element Materials Testing

Both John and Rick spoke on “Analysis of Pearlitic Ductile Iron with Enhanced Mechanical Properties”
Srinath spoke on “The Effect of Copper on the Ferrite-Pearlite Ratio in Ductile Iron”

Wolfram Baer of BAM Federal Institute for Materials Research and Testing

Wolfram spoke on “Advanced Fracture Mechanics Testing of Ductile Iron – A Key to Valuable Toughness Data”

From the Left, Pello Larranaga, Patricio Gil, Urko de le Torre Ugarte of IK4-Azterlan and Jim Csonka

Pello and Urko spoke on “As-Cast Ausferritic Ductile Iron”
Thanks to Tom Prucha of the AFS for chairing the afternoon session on the second day.

From the Left, Patricio Gil, John “Chip” Keough of Applied Process Inc. and Tom Prucha

Chip spoke on “The Stuff Matters – Is ADI a Green Alternative”

From the Left, Iulian Riposan of the Politehnica University of Bucharest and Tom Prucha

Iulian spoke on “The Importance of Rare Earth Contribution from Nodulizing Alloys and Their Subsequent Effect on the Inoculation of Ductile Iron”
Simon Lekakh of Missouri University of Science & Technology represented Marcela Pokusova of Slovak University of Technology who was unable to attend.

Marcela’s talk was on “Optimization of Chemical Compositions of Ductile Iron”

From the Left, Patricio Gil, Wolfram Stets of the Institut fur GieBereitechnik gGmbH, and Tom Prucha

Wolfram spoke on “Solution Strengthened Ferritic Ductile Cast Iron According DIN EN 1563:2012 – Properties, Production and Application”
Robin spoke on “Intercritically Austempered Ductile Iron”

Thanks to Kathy Hayrynen of Applied Process for chairing the morning session of the third and last day of the Symposium.

From the Left, Patricio Gil, John Campbell of the University of Birmingham, UK and Kathy Hayrynen

John spoke on “Proposed Theory on the Mechanism of Spheroidal Graphite Formation in Iron”
Srinath Viswanathan of M3 Consultants

Srinath spoke on “A New Model for the Solidification of Ductile Iron”

From the Left, Patricio Gil, Jacques Lacaze of CIRIMAT, Universite de Toulouse and Kathy Hayrynen

Jacques spoke on “Review of Microstructural Features of Chunky Graphite in Ductile Cast Irons”
Matthew spoke on “Examining Light-Weight Runner Systems that Cut Application Problems”

To top off the evening at the banquet, Bill Sorenson of the FEF gave a presentation on the Foundry Educational Foundation. This will be Bill’s last symposium as he plans on retiring in 2014. We at the DIS wish Bill and his wife all the best in his retirement.
We want to also mention that twelve DIS member companies helped sponsor this symposium. Thanks to:

- American Colloid
- Green Packaging
- Applied Process
- HMAC
- ASK Chemicals
- MAGMA
- Buck Company
- Rex Heat Treat
- CoorsTek
- Seneca Foundry
- Dura-Bar
- Waupaca Foundry

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The Ductile Iron Society through the College & University Relations Committee once again sponsored 10 students to attend the Symposium. The DIS covered all the travel expenses and attendance fees for the students. They were Chad Kelsey of Michigan, (photo unavailable) Josh Allen of Penn State, Connor Montgomery and Brandon Wervey (photo unavailable) of UW Platteville, Mark Young and Joe Kaminski from Trine (photos unavailable), Sis Biswas, Ellis Rivera, Emily Shedlarski and Rhiannon Bragg of UAB.
**New Website**

I hope by now that everyone has had a chance to tour the new DIS website. We have more exciting features like the calendar, more DIS Resources, the new Ductile Iron Producers Interactive Map; Ask the Experts and the Lyle Jenkins Library in the Members Area. I want to especially thank Susie for all the time she put into the new website. It has taken her quite a bit of time to get it looking so good. Also our Banner Ad sponsors are located at the top and bottom of the home page and when you open different links the advertisers show up at the bottom of the page.

**Keith Millis Scholarship Recipients at the FEF CIC**

This year the DIS awarded four students with the Keith Millis Scholarships in the amount of $3000 each. The scholarships were handed out at the FEF CIC in Chicago on November 22, 2013. Thanks again to John “Chip” Keough of Applied Process and Gary Gigante of Waupaca Foundry for going through the many applicants and coming up with four deserving recipients. Those students that were awarded the Scholarships were;

Erica Hill - University of Northern Iowa (unable to attend)
Steve Miller - University of Wisconsin-Milwaukee
Connor Montgomery - University of Wisconsin-Platteville
Matthew Wason - University of Northern Iowa.
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From the Left, Patricio Gil, Connor Montgomery and Jim Wood

From the Left, Patricio Gil, Matthew Wason & Jim Wood

From Left, Patricio Gil, Steve Miller and Jim Wood
Spring 2014 Annual Meeting

Please mark your calendars early as the next DIS meeting will be held June 4-6, 2014 in Lethbridge, Alberta, Canada. The host foundry is Lethbridge Iron Works. Remember to make sure you have an updated Passport to travel to Canada and back home. There are many connections through the Toronto airport to Calgary, Alberta and then 4 flights per day between Calgary and Lethbridge.

The other option would be to rent a car at the Calgary airport and drive to Lethbridge. The travel time is about 2 hours. Also there are flight options through Great Falls Montana and then drive approximately 175 miles. More information will be available through the DIS website and the meeting announcement.

Also, try and extend your visit to Canada by enjoying the Canadian Rockies. Banff Alberta is one of my favorite spots to visit and it is located about 1 hour west of Calgary.

Happy Holidays!!!

Jim Wood
DIS Executive Director
NEWS BRIEFS

Third consecutive year of record installations for SinterCast

- System 3000 Plus ordered for high volume cylinder block production
- Installation planned for December; start of series production during January
- Further opportunities for new installation commitments before year-end

[Stockholm, 31 October 2013] - With the order of a new System 3000 Plus for high volume cylinder block series production, SinterCast has achieved a third consecutive record year for new installation commitments. The new order, which is planned for installation and commissioning during December, will be used for the production of Compacted Graphite Iron cylinder blocks, with the start of series production scheduled for January 2014. At the request of the customer, the foundry identity cannot be disclosed at this time.

The new installation is the third full System 3000 installation commitment during 2013. Combined with two Mini-System 3000 installations and the installation of one automatic base treatment station to upgrade an existing System 3000 installation to the full System 3000 Plus capability, the new order marks the sixth installation of the year and surpasses the previous installation revenue record set in 2012. Further installation discussions are ongoing, providing opportunities for additional installation commitments and revenue before year-end.

"New installation activity is the strongest indicator of future CGI series production commitments and overall market growth" said Dr Steve Dawson, President & CEO of SinterCast. "Three consecutive years of record installations, with increased footprint in Europe, Asia and the Americas, clearly shows SinterCast's leadership position, the market acceptance of CGI, and the demand for stronger materials."

For more information:

Dr Steve Dawson, President & CEO
Tel: +46 8 660 7750
e-mail: steve.dawson@sintercast.com
Jiangling Motors adopts SinterCast process control technology

- SinterCast Mini-System 3000 to be installed during fourth quarter
- Product development for commercial vehicle cylinder blocks and heads
- Four new installations secured during 2013 - further potential before year-end

[Nanchang and Stockholm, 23 September 2013] - Jiangling Motors Corporation, Ltd (JMC), China's leading producer of diesel engined vans, light busses and light duty trucks, has entered into a technology supply agreement with the Swedish process control specialist SinterCast for Compacted Graphite Iron (CGI) product development. Under the terms of the agreement, a SinterCast Mini-System 3000 will be installed at the JMC foundry located in Nanchang, China. The Mini-System 3000, which is planned to be shipped during September and commissioned in October, will enable JMC to independently develop high quality CGI cylinder blocks and heads for its own diesel engines and for engines produced as part of its joint venture with Ford Motor Company.

"This order marks our sixth installation in China, broadening our presence and our brand awareness in the world's largest commercial vehicle market. We are pleased that our longstanding support of CGI development in China, combined with our commitment to local commercial and technical support, has led to JMC's decision to adopt our technology" said Dr Steve Dawson, President & CEO of SinterCast. "The JMC Mini-System 3000 is our fourth installation commitment of 2013 and, together with other ongoing installation discussions, provides an opportunity for a third consecutive year of strong installation growth, following record installation performance in 2011 and 2012."

For more information:
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President & CEO
Tel: +46 8 660 7750
e-mail: steve.dawson@sintercast.com
FOR IMMEDIATE RELEASE DECEMBER, 2013
FEF COLLEGE INDUSTRY CONFERENCE

Over 300 industry executives, student delegates, key professors and university administrators were in attendance at this year’s FEF College Industry Conference, held recently at the Westin Michigan Avenue in Chicago.

The conference began on Thursday, November 21, with the Career Information Session which gave 85 student delegates the opportunity to interact with representatives of 44 companies in the metal casting industry. The Information Session and social time before and after the event is structured to facilitate the sharing of job opportunities and to connect students to potential employers in the industry.

During the General Session on Friday, the following speakers shared their vast experiences in the metal casting industry: Rodney Burkhardt (Metal Technologies), Denny Dotson (Dotson Iron Castings), and Al Spada (Modern Casting and Metal Casting Design & Purchasing).

The FEF/AFS Distinguished Professor Award was given to FEF Key Professor, Darryl Webber, Trine University, in recognition of his demonstrated personal interest in his students, as well as his interaction with the industry. As part of the luncheon this year, the Student Delegate scholarships were presented (see next page for complete list) – 21 students were awarded a total of $46,000.00. Additionally, the Keith Millis and Ron Ruddle scholarship recipients were announced during the luncheon.
At the Annual Reception on the evening of November 22, FEF’s highest award, the **E.J. Walsh Award**, was presented to longtime FEF Board Member and FEF Past President (2010), Tom Cobett.

Next year’s conference will be held on November 20 & 21 at the Westin Michigan Avenue in Chicago. Plan now to attend this exciting event!

**Special Scholarships**

Keith D. Millis Scholarship  
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Ron Ruddle Scholarship

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<tr>
<th>Scholarship</th>
<th>Recipient</th>
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<td>Erica Hill</td>
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<td>Steve Mille</td>
<td>Judy McLeod</td>
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<td>Kurt Karron</td>
<td>Chris Miller</td>
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<td>Joseph Weller</td>
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**CIC Student Delegate Scholarships—November 22, 2013**

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<th>Scholarship</th>
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<tr>
<td>AFS-Saginaw Vall. Scholarship</td>
<td>Joseph Gray</td>
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<td>AFS Southwestern Ohio</td>
<td>Scott Hartman</td>
<td>Penn State</td>
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<td>Ron &amp; Glenn Birtwistle Mem.</td>
<td>Mary Cartier</td>
<td>Wisconsin-Platteville</td>
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<td>Ronald Birtwistle Mem.</td>
<td>Joshua McLennan</td>
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<td>Dan Burk</td>
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<td>Paul Carey</td>
<td>Jon Giove</td>
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<td>Clifford Chier-Badger Mining</td>
<td>Joseph Kaminski</td>
<td>Trine University</td>
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<td>Wm. E. Conway Schol.-</td>
<td>Laura McGee</td>
<td>Kent State</td>
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<td>Tony &amp; Elda Dorfmueller</td>
<td>Tadeo Gonzalez</td>
<td>Inst. Tecnologico de Saltillo</td>
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<td>Richard Frazier Scholarship</td>
<td>Derek Denlinger</td>
<td>Missouri Univ. of Science &amp; Te</td>
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<td>Burleigh Jacobs Scholarship</td>
<td>David Fletcher</td>
<td>Univ. of Alabama</td>
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<td>John Deere Scholarship</td>
<td>Elijah Roth</td>
<td>Univer. of Northern Iowa</td>
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<td>James P. &amp; Katherine Keating Loper</td>
<td>Gabriella Mirabelli</td>
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<td>Award</td>
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<td>MAGMA Schol.-John Svoboda</td>
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<td>Modern Casting Scholarship</td>
<td>Jacob Roland</td>
<td>Purdue-West Lafayette</td>
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<td>Chester V. Nass Memorial</td>
<td>Tyler Dietzschold</td>
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<td>Robert W. Reesman Mem.</td>
<td>Dimitrios Kotsakis</td>
<td>Mohawk College</td>
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<td>Gary Thoe Schol.-ThyssenKrupp</td>
<td>Steven Nygaard</td>
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<tr>
<td>Ray Witt Memorial Scholarship</td>
<td>Mark Young</td>
<td>Trine University</td>
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<tr>
<td>Robert V. Wolf Mem. Scholarship</td>
<td>Jared Kerker</td>
<td>Missouri Univ. of Science &amp; Tech</td>
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Both AFS and DIS (Represented by Jerry Call and Jim Wood) presented checks to FEF as a result of the proceeds from the Keith Millis Symposium.