



2005 Newsletter

Serving your analytical needs since 1998

August 2005

Visit our booth

Material Science & Tech.
(MS&T)
September 25—28
Pittsburg, PA

Automotive Testing Expo
October 25—27
Novi, MI

DRI Annual Meeting
October 19-21
Chicago, IL

ASM/TSS Combustion
Turbine Coatings Workshop
October 26—27
Houston, TX



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IMR: Lab on a Mission

By Ron Parrington, President
IMR Test Labs (Ithaca, NY)



Ron Parrington joined IMR in 1998 and was promoted to President – IMR Test Labs on January 1, 2005. As such, Ron has overall responsibility for the management of the Ithaca-based laboratory.

IMR Test Lab's Mission & Vision Statement captures the essence of who we are ...

The mission of IMR Test Labs is to always satisfy our customers' needs for materials laboratory services by consistently delivering quality results on time and at a competitive price.

IMR Test Labs will meet its mission by emphasizing customer service, by utilizing employee expertise, and by deploying modern technology. We will work safely and be a responsible corporate citizen. Our core values include reliability, integrity, efficiency, and continuous improvement.

Our vision is: (1) to be the preferred source for materials laboratory services; (2) to build long-term customer relationships; and (3) to help improve the quality of our customers' products. We will create a dynamic, profitable and well-respected company that is an enjoyable place to work and a source of employee pride.

This spring, IMR's management team conducted a series of intensive discussions to create a strategic plan that will help us to better fulfill our mission and to move us closer towards our vision. We arrived at two basic strategies: (1) to be the lowest risk provider; and (2) to seek rational growth through continuous improvement.

What do we mean by "the lowest risk provider"? Well, we want to provide our customers with comprehensive and convenient materials laboratory services without the risk of data errors, inadequate test reports, late results, incorrect quotes, inaccurate invoices, poor communications, unsatisfactory customer service, unfair prices, etc.. Being the lowest risk provider will fuel our rational growth strategy, because our customers will want to do business with us. A detailed action plan has been implemented to pace our strategic progress. These actions include initiatives to improve training, quality, and customer satisfaction. IMR truly is a lab on a mission! ■

New Technical Training Center

By Mike Parkhurst, Technical Sales Representative
IMR Test Labs (Ithaca, NY)

As you receive this newsletter, IMR employees should be completing the move into the new IMR Technical Center.

This new building answers many of the needs we have had, not only for increased space but for improved conference and training facilities. The building is adjacent to the original facility and shares a common loading dock.

The Technical Center will serve as the new home for our Professional Services Group which consists of metallurgy, failure analysis, and litigation services. Two of our three SEM's will be moved into more spacious rooms as will all of our metallurgical and microscopy equipment.

Some of our management, accounting, sales, marketing, quality, and IT personnel will also be moving over, creating much needed space in the original building. *Continued on Page 2*



All IMR Facilities are ISO/IEC 17025 Accredited

By Deena Crossmore, VP-Corporate Quality
IMR Test Labs (Ithaca, NY)



IMR Metallurgical Services, in Louisville, KY obtained A2LA accreditation in November of 2004, thus making all of the IMR Test Labs (Lansing, Charleston, and Louisville) accredited by A2LA. A2LA evaluates the ability of testing labs to meet the stringent requirements of ISO/IEC 17025, an international standard. ISO/IEC 17025 contains the requirements for testing labs to demonstrate that they have a quality system in place, they are technically competent, and that they can produce technically valid results.

Audits are conducted by A2LA every 2 years at each of our sites. The audits are extensive; IMR-Lansing has 2 auditors for 4 days on site. The majority of the auditor's time is spent in the departments observing testing and interviewing employees about the testing procedures.

To view copies of the A2LA certificates for Lansing, Charleston and Louisville go to www.imrtest.com and click on Certifications. You can also contact Deena Crossmore, VP-Corporate Quality at deena@imrtest.com for copies of certificates or for more information about the accreditation process. ■

New Technical Training Center

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However, the biggest gain will be seen by our chemistry department which stands to double its space in the main building, making room for growth in our Declarable Substances (DS) business (i.e. RoHS and others).

For those of you that have witnessed our growth over the years, and those new to IMR, we are pleased to present to you our latest addition and we are grateful for your support. ■

One Lap of America: A History of Excellence

The 'One Lap of America' team competes for the benefit of the Rochester Ronald McDonald House, which is a home-away-from-home that provides lodging, emotional support, and comfort to families of children receiving medical treatment.



This is the 14th year that IMR employee Roy Hopkins has competed in One Lap. IMR Test Labs has supported the entry and fundraising since 2000, soon after Roy joined IMR. The team's record is outstanding, with 8 class wins. But more important than winning is the satisfaction of helping a truly worthy cause. "We'll never forget the many thanks we've received around the country from parents and children who have been helped at Ronald McDonald Houses nationwide", Roy adds. ■

IMR Metallurgical Services—Louisville Update



By Brett Miller, PE
Lab Manager, IMR Metallurgical Services-Louisville, KY
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The Louisville operation continues to grow in all aspects of our business. Our A2LA certification has brought about many positive changes and it has opened the door to many new customers, particularly in the area of mechanical testing. In response to this we have acquired a second tensile testing system, a CNC lathe for rapid sample preparation, and hired an experienced machinist. Mick Lumb (see New Employees) has joined us as Director of Business Development to help identify new opportunities and establish a greater awareness of our services. John Jendrzewski, Rimmel Taylor, Dave Mohr, and I stay busy working on a steady stream of failure analysis and litigation work, while Hector Marini and David Zauler keep on top of the chemical analysis work that comes through the door. Diana Guyton keeps everything organized and your calls routed to the right people. All in all, 2005 is shaping up to be a growth year for us and we promise to keep pace with your needs. ■

IMR Test Labs—Charleston Update



By Melissa Gainey
Lab Manager, IMR Test Labs-Charleston, SC
843.745.1123 mgainey@imrcharleston.com

IMR Test Labs – Charleston continues to expand their customer base. Sixty-five new customers were added in 2004, an increase of 48% from 2003! Continued growth is expected as manufacturing in the area expands. We have recently begun an exciting new program of tool testing for a major client, a program that capitalizes on the unique range of services offered here in Charleston.

As part of our effort to stay abreast of emerging technology, Gregg Anderson attended Fuel Cell South 2005. There he learned about the developing technology of fuel cells, toured the Engineering Research Center at the University of South Carolina, and witnessed ongoing development of fuel cell technology.

We recently passed an onsite audit conducted by Pratt Whitney and SKF. The audit related to specific requirements necessary for processing work from their manufacturing facilities. We are always happy to submit to customer audits in order to provide our customers with the assurance that we are committed to the highest quality standards. ■

New Equipment

CM-3600d Minolta Spectrometer

The Konica Minolta CM-3600d benchtop spectrophotometer is used for reflectance and transmittance color measurement. The CM-3600d can provide full spectral data measurements simultaneously for SCI and SCE. By acquiring SCI and SCE data simultaneously, the user can discriminate both color and appearance differences almost immediately.



RCA Wear Tester per ASTM F-2357

This unit is used for subjecting inks or coatings on membrane switches to an abrasive medium at a specified force. The samples can be either flat or contoured and is applicable for materials including, but not limited to printed or coated polyester, polycarbonate, and silicone rubber. Membrane switch keys are subjected to repeated actuations, usually by a human finger. They are also subjected to other conditions (for example: wiping, cleaning, rubbing) during handling, end-use, shipment, or storage that may cause abrasion damage. The result may be a significant removal of the coatings, text, or decorative inks.



Instron "DynaMight" Fatigue Tester

The addition of the Instron "DynaMight" adds a whole new dimension to our mechanical test capabilities. Designed for analyzing small components such as those found in Biomedical applications, the DynaMight offers axial loading capacity of ± 220 lbf and rotational loading capacity of ± 100 in-lbs. The Instron 8800 Series Controller provides 4 channels of control and up to 5 kHz of data acquisition capabilities. Multi-step profiles can be run with numerous waveforms. This instrument is ideal for analyzing the fatigue properties of components with multiple axes of movements, such as joints and couplings.



New Hardinge Lathe HLI50-E

With the current increase in IMR Test Labs machining requests, we have purchased a new Hardinge HLI50-E. It is driven by a Fanuc 21 IT controller, accompanied by a 12 turret tool changer, with a maximum 6,000 rpm and can accept up to 6" in diameter for turning. Our original Hardinge Cobra 42 is now situated in our Louisville, Kentucky Laboratory.



Chemistry Department

We are proud to announce the acquisition of two new pieces of equipment in the Chemistry Department. A second Eltra CS 800 was purchased for determination of Carbon and Sulfur by combustion. An additional Perkin Elmer 4300 DV (ICP-AES) was also purchased, our third in Ithaca and fifth overall. Both instruments were acquired to accommodate the increase in workload in the Chemistry Department.



Increased SEM Trace Element Detection

We've increased the trace element detection capabilities on our LEO 435VP SEM, with the addition of an fX micro X-ray tube from IXRF Systems, Inc. Using our existing EDS detector and software, the fX tube expands the SEM into an XRF analyzer with the advantages of lower background, better trace element detection, and higher energy excitation. Analysis areas of 500 μ m or less are achievable and outputs can include quantitative analysis, X-ray line scans, and maps. The addition of this instrumentation greatly improves our ability to discriminate similar alloys when only very small samples are available. We are in the process of discovering and developing additional applications.

Employee News

Ron Hughey, *Metallurgical Specialist—NY*, completed a course at Tompkins Cortland Community College titled Front Line Leadership and Management.

Shawn Levey, *Metallurgical Lab Technician—NY*, completed two courses—the ASM Elements of Metallurgy course, and our own, Aerospace Metallography and Coating Evaluation Training Program.

Tim McGrady, *Principal Scientist—NY*, has been appointed Chairperson of the ASTM F-40 committee.

Fred Anderson, *CWI, Metallurgical Specialist—NY*, completed an advanced metallography course at Buehler, LTD in Chicago, IL.

MATware Update

Our in-house Laboratory Information Management Software (LIMS system), called MATware, is making the leap from the Access based backend we started with 7 years ago, to a faster and more robust SQL Server backend. The software will be offered to clients in both configurations depending on the size of the lab, among other factors. To learn more, contact Denise Robinson, drobinson@mat-ware.com. ■



New Employees

Mike Bimbo

Nonmetallics Lab Technician—Ithaca, NY

Mike holds a BS in Chemistry. He completed 2 years in graduate school in bioanalytical chemistry. Mike enjoys fishing, hydroponics, and taking things apart.



Stan DeForest

Manager-Nonmetallics—Ithaca, NY

Stan holds a BSME from Kettering University. He has 10 years of experience working as a Materials Engineer. In his free time, he enjoys fine cigars, reading, riding motorcycles, and flying airplanes.



Melissa First

Quality Assistant—Ithaca, NY

Melissa earned an M.S. in Biochemistry and an MEd. in Education from the University of Georgia. She spent 3 years at Strong Memorial Hospital, and then 6 years running her own organic, horse powered market farm. Although the farm is now on the back burner, Melissa still loves to spend her down time working with horses and plants.



Ray Harmon

Chemical Technician—Ithaca, NY

Ray holds a BS in Farm Management from Eastern Kentucky University. He worked as a Radioman in the US Navy before spending 13 years at the University of Kentucky working as an Animal Tech. (1.5 years) and Lab Tech (12 years). Before coming to IMR, he held the position Tech. III with Cornell University for 6 years. Ray enjoys reading and travel.



Jeremy Inglis, Ph.D.

Chemist—Ithaca, NY

Jeremy earned his B.Sc. (Hons) from the University of St. Andrews (Fife, Scotland) and earned his Ph.D. at Oxford Brookes University (Oxford, United Kingdom). He moved to the United States in 2001 and worked at Syracuse University for three years before joining IMR. Jeremy enjoys skiing, backpacking, climbing, and reading.



Adam LaGrow

Chemical Technician—Ithaca, NY

Adam holds a BS in Chemistry from SUNY College of Environmental Science and Forestry. He earned an Army Medal of Commendation while in the Army National Guard (which he is still an active member of). He was also awarded the Xerox Award in humanities. If he had the day off, he'd be "out riding his bike (motorcycle)".



Yongzhong (Yong) Liu

Research Scientist—Ithaca, NY

Yong holds a Bachelor's Degree in Electronics Engineering and a Master's Degree in Analytical Chemistry from the Chinese Academy of Science. He worked as a Resident Research Associate at NASA Johnson Space Center and, most recently, as a Scientist at the University of Rochester. Yong likes to play basketball, table tennis, and travel for sightseeing.



Jeff Pister

Metallurgical Technician—Ithaca, NY

Jeff comes to us from California where he spent many years in the construction field. His hands-on approach and strong work ethic has made Jeff a valuable member of the Metallographic group. Jeff is scuba certified, an avid golfer, and enjoys skiing and snowboarding in the winter.



Laurel Qualls

Chemical Technician—Ithaca, NY

Laurel holds a BS in Education-Secondary Earth and Space Science and a BS in Geology from the University of TN at Martin. She is currently pursuing an MS in geology at Syracuse University. Laurel has worked as a lab assistant, a teaching assistant, and a research assistant with Syracuse University. Before that, she volunteered with the USGS South Florida Ecosystem History Project. Laurel enjoys reading, arts & crafts, swimming, tennis, bicycling, and watching TV/movies.



Debbie Fourney, P.E.

Metallurgist—Charleston, SC

Debbie holds a BS in Materials Engineering from Virginia Polytechnic Institute and State University (Virginia Tech) and an MS in Materials Science and Engineering from the University of Virginia. She's worked as a Nuclear Engineer, Materials Engineer, Senior Engineer, and Manager of a Materials Group. Debbie's other interests include any type of sports - especially football (Virginia Tech Hokies and Jacksonville Jaguars, in particular). She also enjoys working out at the gym, relaxing on the beach, reading, listening to music (except opera), and watching TV and movies.



Mick Lumb

Director of Business Development—Louisville, KY

Mick is from Northern Ireland and holds a BS in Geology from Sheffield University, England. After serving ten years in the Bermuda Police Service, he emigrated to the USA in 1987 and his sales/marketing career has spanned the leisure travel (scuba diving), automotive, and "Yellow Pages" Industries. He is a passionate rugby fan and enjoys bird-watching, the outdoors, and reading.



EU Directives: A Mess of Epic Proportions

By Tim McGrady, Principal Scientist
IMR Test Labs (Ithaca, NY)



As you may have heard, the European Union (EU) government has been creating regulations for many types of products to be put on the EU market. Surveys have shown that 40 – 50% of affected companies either do not know about the regulations or have not begun efforts to comply with them; some companies have mistakenly assumed that since the regulations concern only the EU that their products are unaffected. Other companies have assumed that they are exempt from the regulations because they do not make finished goods or because they believe their products are covered by one or more exemptions. There are a few exemptions associated with this legislation, but the EU directives, when taken as a whole, cover the vast majority of chemicals, materials and components used to construct practically every consumer product. This applies to not only those products made for sale within the EU; this type of regulation has begun to spread to most large markets of the world, including the US, China, and Japan.

In a documentary aired on The Discovery Channel entitled “Does Europe Hate Us?”, three-time Pulitzer prize-winning journalist Thomas L. Friedman stated “The EU is now completely revising its rules regarding thousands of potentially dangerous chemicals found in virtually every consumer product imaginable - from televisions and car seats to clothes and baby toys.” Mike Walls of the American Chemistry Council, when interviewed in the same documentary, said “It’s an attempt by the European Commission to regulate the terms of all global commerce, essentially.” He further said that the EU will “set the rules for not just chemicals per se, but all the products that are made with chemicals. You can’t make a computer chip without chemicals; you can’t make a car without chemicals; we’re talking about sweeping regulations. And in fact, Tom, more than thirty governments in the World Trade Organization have expressed their concern to the European Commission.” When Friedman suggested the EU regulations seem “like a hidden trade barrier” to Yannick Vicaire of France’s Greenpeace office, Vicaire responded, “The right for citizens to protect their health, because we Europeans value it, cannot be considered a protectionist barrier.” This is the argument that has allowed the EU to continue foisting environmental regulation on world manufacturing; until governments find a way around this argument in the WTO, regulations will continue to pile up unchecked. The problem is that such regulations are costing the world manufacturing companies many billions in unnecessary compliance costs because, frankly, the implementation of the EU regulations has been a horribly confusing, tangled mess – I’ve called it “a mess of epic proportions”.

So what does all this mean to you as an individual company? It means that you are likely to face more and more complex compliance issues concerning your products no matter where you are located, no matter which market you supply, and no matter what product you manufacture. The EU regulations on products place the basis of compliance on the materials from which products are made, so when basic materials or chemicals are changed to meet regulations, all manufacturing sectors may be affected. For example, medical device manufacturers are currently exempt from the EU Restriction of Certain Hazardous Substances (RoHS) directive; however, since medical device manufacturers buy the same materials and circuit boards as non-exempt companies, cost, availability and reliability become issues, since the majority of materials and components will have been changed to comply with the RoHS regulation.

The cost associated with compliance with substance regulations can be staggering; we have heard horror stories of companies spending 5% of their gross revenues on RoHS compliance alone. IMR Test Labs is taking a lead role in trying to mitigate the compliance cost both on a global scale and on an individual company basis. We can help guide you through the compliance mess and help you do only what is necessary to comply with regulations. As Chairman of ASTM International Committee F40 on Declarable Substances in Materials, I am committed to helping industry develop the needed standards so that cost can be minimized and the current compliance mess can be untangled. ■

Lab Management Services

IMR continues to offer a wide variety of options in the area of laboratory management. These range from part time staffing to a total lab management solution. For more information, please visit our website and click on **Lab Management** (located on the **What We Do** menu along the left-hand side of the screen). ■

Oh the Things We Do...

Just when we think we’ve seen it all, the daily mail delivers a host of things we never expected. Here’s a sampling of the kinds of things and the kinds of testing we’ve completed in recent weeks:

- Garlic presses and colanders
- Holiday ornaments
- Drill bits and saw blades
- Sterling silver jewelry
- Gears and spindles from power tools
- Electric insulators
- Surgical instruments
- Ice cream scoops
- Pots and pans
- Printed labels
- Lead crystal glass

- Microtrac particle size analysis of thermal spray coating powders

- Aggressive machining evaluation of jet engine air seals

- Pycnometer testing of powders to measure the specific gravity

- Stain resistance testing of counter top materials

- SEM examination of dental drills

- Fuel cell stack cross sections for microstructure evaluation

- Exposure of functioning fuel cell to temp. extremes in walk-in chamber

- Charpy testing of base, weld, and HAZ in welded plates

- Metallurgical evaluation of turbine blades

- Failure analysis of jet engine fuel nozzles

- Mechanical testing of components for the Presidential Helicopter

- Machining magnesium wheel rim forgings into mechanical test samples

- Long term high temperature exposure of thermal spray coatings



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Not just data. Knowledge.



Turbine blade casting defect, outlined by a diffused chromium coating

Mark your calendar!
2005 Open House dates

NY—October 7th
SC—October 7th
KY—October 7th

Aerospace Metallurgy and Coating Evaluation Training Program

By Doug Puerta, Director Metallurgical Engineering
IMR Test Labs (Ithaca, NY)



March 14-18, 2005 marked the first offering of the Aerospace Metallurgy and Coating Evaluation Training Program at IMR Test Labs. This course, endorsed by Pratt & Whitney Aircraft, was developed to meet an industry need for training in the areas of jet engine coating metallurgy and evaluation.

The March course is actually the second time this course has been taught. Earlier this year, IMR took the course "on the road" and taught a full class at Pratt & Whitney in East Hartford, CT. In both cases, student feedback has been overwhelmingly positive.

Classes are scheduled (and are filling up rapidly) for sessions throughout 2005 and 2006. Classes this fall are being held September 19-23 and November 14-18

Please contact Doug Puerta, dpuerta@imrtest.com, Director of Metallurgical Engineering, for additional information. ■

Visit out website www.imrtest.com