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Bringing Technology and Technique Together

ITSA Awards Scholarships

The International Thermal Spray Association (ITSA) has awarded 2009 Graduate Scholarships to *"Andrew" Ang Siao Ming* of

Swinburne University in Australia, *Mark Cuglietta* of University of Toronto in Canada and *Wilson Wong* of McGill University of Canada. See page 30 for information on all recipients.



Andrew is congratulated for receiving an ITSA Graduate Scholarship while at ITSC 2010 in Singapore. (left to right: ITSA representatives Joe Stricker of St. Louis Metallizing and John Hayden of Hayden Corporation, "Andrew" Ang Siao Ming and Christopher Berndt of Swinburne University.)

Thermal Spray Pavilion and Conference at Fabtech November 2-4, 2010 Atlanta, GA USA For more information, visit www.fabtechexpo.com See page 9 for advertisement.

Woof Develops Plasma Ceramic Coatings Range

Metallisation customer, Woof Thermal Management Technology, has applied well-proven plasma ceramic coatings technology to high-performance automotive applications to provide highly effective thermal barriers in extreme conditions.

Woof Thermal Management Technology; based in Bradford, West Yorkshire; provides premium specialist coatings and engineering services to industry and end users. The plasma ceramic coatings range has been developed for the nuclear industry, but is proving itself to be very effective and valuable in heavy engineering, aerospace and motorsport industries.

Using Metallisation plasma thermal spraying equipment, Woof Thermal Management Technology has extensive experience in supplying premium thermal barrier coatings to the motorsport industry. Woof's coatings have been specifically developed to reduce under hood temperatures, increase power output and increase the reliability and longevity of ancillary components.



The durable plasma ceramic coating provides a highly effective thermal barrier on exhausts, turbos and brake parts and enables high-performance vehicles to run at continued on page 4



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Mission: To be the flagship thermal spray industry newsletter providing company, event, people, product, research, and membership news of interest to industrial leaders, engineers, researchers, scholars, policy-makers, and the public thermal spray community.

Kathy M. DusaManaging EditorPaul KammerTechnical EditorDan HaydenEditor

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Manufacturer of High Performance Wire for Hardfacing, Welding and Thermal Spraying



APPLICATION NEWS

cooler temperatures. The plasma ceramic coatings work by reducing heat transfer, which means an increase in power and reduced heat input to other components. A typical drop of 77°F (25°C) in under bonnet temperature will result in decreased intake temperature, which can give up to a 5% increase in power and significantly increases ancillary reliability.

The Woof plasma ceramic coatings can reduce surface temperatures by up to 320°F (160°C) and can withstand temperatures of up to 2550°F (1400°C). This compares with typical standard ceramic containing paint, which may only reduce surface temperatures by up to 9%.

The Woof premium performance plasma ceramic coating contains magnesia/ irconia and offers the best thermal barrier coating. The coating is creamy white in color, with a slightly rough surface texture.

There is an alternative darker plasma ceramic coating, which contains alumina/titania and has a grey colored appearance. This offers similar reductions in surface temperature, although the radiation of heat is slightly greater than with magnesia/zirconia. In all cases, except maybe some extreme situations, this coating gives the performance advantage but is less prone to aesthetic degradation due to its darker colour. This means the coating stays fresh and smart looking, which may be important for concourse cars.

The well-known white exhaust coatings became very



popular in the 1990s and are applied on many new breed



turbo charged four wheel drive world rally cars. The proof of their success is demonstrated by the teams who opted for these coatings, which include key players in

the industry such as Subaru and Mitsubishi.

These days the use of ceramic coatings has become widespread including touring cars, super car manufacturers and various rallying disciplines, which has led through to private owners using the coatings on track day cars and fast road cars. Woof Thermal Management Technology currently supplies Mellors Elliot Motorsport and the works Proton S2000 Team.

John Holdsworth, Managing Director at Woof Thermal Management Technology, says: "It's a really exciting time for Woof and we are thrilled to be expanding our services within the motorsport industry. To support our commitment to the industry we have decided to sponsor the Lancashire & Districts Subaru owners' club 'Best in Show' trophy at the prestigious Preston Flag Market car show in April. This lets us get close to the car owners and provides great networking opportunities."

For more information on Woof Thermal Management Technology, please visit www.woof-tmt.com.

Thermal Spraying is Huge Success with Electro Metal Depositors

Metallisation customer, Electro Metal Depositors, is a huge fan of thermal spraying and says its clients are thrilled with the results.

Electro Metal Depositors;; based in Oldham, Lancashire; provides anticorrosion and surface protection for all manner of equipment and structures including turnstiles, playground equipment, security barriers, entrance gates, roadblocks and decorative balustrades. The company prides itself on providing surface coatings that offer corrosion protection, durability and longevity.

Metallisation supplies Electro Metal Depositors with arc spray equipment, wires and supporting sundries for use in all of its thermal spraying projects. The Metallisation Arc140 system offers a lightweight, medium capacity solution for both anticorrosion and engineering coating applications. At the heart of the system is the patented 'Synchrodrive', which reliably and positively drives the wire at the dispenser and the gun, allowing the gun to be up to 65 ft (20 m) from the wire. The flexible drive system means that there is no motor in the pistol, resulting in a lightweight, maneuverable gun, increasing the flexibility of the system and reducing operator fatigue.

Although Electro Metal Depositors provides thermal spray solutions to many industries and clients around

the UK, the company has recently completed two exciting major projects with its client, Broughton Controls Ltd. The first was to protect the entrance turnstiles of an Irish rugby stadium. With a capacity of 50,000 the turnstiles at the rugby



ground will be well used, which means they need to be hardwearing and protected from corrosion. To achieve this the turnstiles were thermal

sprayed with zinc and finished with a powder coating. The thermal spraying provides an

excellent key for the powder coat to adhere to, assisting in the long-term durability of the outer coating. Should the powder coat be damaged, by jeans rivets or belt buckles for example, the zinc spray comes into its own and protects the base steelwork from rusting. Rusting of turnstiles and handrails can cause sharp areas, obviously undesirable given the amount of people passing as well, as the aesthetic issues. The combination of thermal sprayed zinc and powder coat has provided a hardwearing, anticorrosion coating guaranteed for at least ten years.

The second project was to protect the entrance turnstiles at a defense site in the UK. Again strong, robust, hardwearing surface protection was required, which has been delivered by thermal spraying the turnstiles with zinc. This time Electro Metal Depositors has provided a 20-year guarantee to its client.

In the thermal spraying process surface preparation is very important to the success of the final coating. All of the surfaces are therefore prepared by grit blasting with steel grit to SA 2.5, which ensures the surface area is ready to accept the metal particles. Electro Metal Depositors aims for around 70 - 100 microns of zinc spray and between 2.8 - 3.9 mils (70 - 100 microns) of powder coat, which gives a total of 5.5 - 7.9 mils (140 - 200 microns) of protective coating on all projects.

One of the major advantages of thermal spraying, as opposed to a process such as galvanizing, is that there is no heat distortion of the structures being coated. This is vitally important in the protection of decorative balustrades the company manages on a regular basis. These balustrades can be intricate and delicate moldings in metal that will be easily distorted by the heat generated in the galvanizing process.

A second key advantage of thermal spraying over galvanizing is the ability to protect large structures. Galvanizing is limited to the size of the galvanizing tanks and therefore cannot accommodate large structures. Whereas thermal spraying has no limitation on the size of the structure it can protect. This was a key factor in the company's decision to thermal spray large roadblocks, which are huge steel structures used in war zones. The roadblocks needed to be protected from corrosion, but also robust enough to withstand an explosion.

Richard McPartland, Chief Executive, Electro Metal Depositors, says: "Thermal spraying is fantastic. Its strength, durability and long-term protection is ideal for the work we are asked to do by our clients. The security companies love thermal sprayed surfaces because it is just so strong. It not only provides corrosion protection but it creates a hard-wearing, strong surface that lasts for years. We recently used it to protect the security barriers at the site of one of the large banking groups and it has been a huge success. Metallisation is a great company to work with. They are always on hand to offer support and to discuss new developments with us. I am a big fan of thermal spraying."

Metallisation Ltd, based in the UK, provides anticorrosion solutions to industries around the world and has done since 1922.

For more information on Metallisation and thermal spraying solutions, please contact Stuart Milton on 01384 252 464 or visit www.metallisation.com

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I N D U S T R Y N E W S

ZEPHYR^ III

Powder Maker Reports Strong Gains

Höganäs AB, Sweden, reports a 69% increase in first quarter sales over the same period in 2009 to MSEK 1,548 (about \$215 million). Overall production soared, especially in Asia and South America where it more than doubled.

Net sales of PM grade powders jumped 93 percent to MSEK 1,164 (about \$161 million). Net sales of consumable powders rose 23 percent to MSEK 384 (about \$53 million) based on increased flux core wire production and gains in friction materials.

The company announced a successful R&D project with Roussakis S.A., a leading ship repairer in Greece, that has used its stainless steel powders for laser surface coating a 28.7 ton (26 metric ton) propeller shaft.

Höganäs expects an improvement in the overall market outlook. Strong demand for powders in Asia and South America will continue and improve gradually in North America while market conditions in Europe will remain weak. However, the company expects a decrease in production in the second half of 2010. Metal prices and exchange rates are expected to remain volatile, which will impact income.

For more information, visit www.hoganas.com



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Camfill Farr APC Opens Five Regional Sales and Service Offices

Camfil Farr Air Pollution Control (APC), a leading producer of dust and fume collectors to clean up industrial processes, has opened five regional sales and service offices across the country for enhanced support of customers nationwide. The new offices are in Los Angeles, CA, Lincoln, NE, Charlotte, NC, Dayton, OH, and Dallas, TX.

"The new offices are structured as multi-staffed facilities, each one with a regional manager, a sales engineer and a service technician;" states John Dauber, North American sales manager for Camfil Farr APC. "These individuals will provide day-to-day support both to industrial customers and to the company's extensive network of trained representatives and distributors. In addition, each location will have a showroom for display of our flagship line of Gold Series® cartridge dust collectors, a warehouse for local stocking and delivery of replacement filters and parts, and a meeting facility for technical seminars on a range of dust collection topics."

For more information on the new offices, phone 866.669.6750 or visit http://www.farrapc.com/offices.

New Brochure Describes Portable Dust and Fume Collector

Camfil Farr Air Pollution Control has published a brochure on its new Zephyr[®] III pulse-cleaned dust and fume collector, which combines portable three-stage filtration with versatility and ease of use. The portable collector is

ideal for handling industrial process contamination, source capture or periodic dust collection at various locations. Applications include welding fumes, grinding dusts, dry dusts, soldering fumes and other airborne particles.

The brochure includes full information on Zephyr III features and benefits. It also describes three main filter choices and fume arm options available for u

arm options available for use with the unit.

For a downloadable brochure, go to http://farrapc.com/literature/products/zephyr.pdf.

camfi

Headquartered in Jonesboro, AR, the rapidly expanding dust collection company is a subsidiary of Camfil Farr; the world's largest air filter manufacturer.

For general information, contact Camfil Farr APC at 800.479.6801 or write to Camfil Farr APC, 3505 S. Airport Road, Jonesboro, AR 72401; e-mail filterman@farrapc.com; web www.farrapc.com.



DeWAL Industries Offers Engineers Application Information at its New Website

DeWAL Industries, Inc., a leader in the manufacture of skived PTFE and UHMW-PE film, is offering engineers a new source of information for improving products with PTFE and UHMW-PE films and tapes.

The new DeWAL website, www.dewal.com, provides hose and belt designers with ways to improve hose linings, abrasion layers, permeation barriers and overwraps. DeWAL offers wire and cable engineers opportunities to meet stricter cable construction requirements.

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Thermal spray, mining and automotive manufacturing applications are all discussed in detail; as are filtration, container closure and packaging uses.

The DeWAL website addresses needs for chemical, heat and abrasion resistance, mechanical properties and compliance with the requirements of various U.S. and international governments and agencies.

"This is a great source of information for OEMs needing PTFE and UHMW films and tapes," said Christopher Brooks, DeWAL's Director of Sales and Marketing. "We have been working for years with engineers, designers and production people in unique industries, and we know that our new site offers them useful insights into how our films and tapes can be used for better parts and finished products."

Since its founding in 1974, DeWAL Industries has become a leader in the manufacture of skived PTFE and

UHMW-PE film. DeWAL manufactures pressure sensitive tapes from PTFE, UHMW-PE, Polyimide, and PTFE-coated glass fabric. DeWAL is known for electrical, mechanical and plasma films and tapes, including porous, laminated and die cut films and tapes manufactured to the tightest tolerances.



DeWAL new website home page.

For more information, contact Christopher Brooks, DeWAL's Director of Sales and Marketing, 800.366.8356 or cbrooks@dewal.com or visit www.dewal.com.

(See advertisement page 10.)





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8th HVOF Colloquium 2009 A Success

The colloquium, "High Velocity Oxy-Fuel Flame Spraying", has long established itself as the world's largest conference for this specialist field of thermal spraying. In November 2009, the colloquium took place for the 8th time, with the Civic Hall in Erding near Munich hosting this international thermal spray event for the 5th time, having also been the venue in 1997, 2000, 2003 and 2006.







Prof. Kirsten Bobzin, Head of IOT at the RWTH University Aachen and President of GTS.

Alan Watkins, Global Head of Merchant and Packaged Gases at Linde AG.

On November 5 and 6, 2009, 25 technical presentations and 21 exhibitors provided the 420 attendees from 23 countries with the latest information and developments in the field of HVOF and cold spraying. The new concept of bringing the presentations, exhibitors and supporting program closer together was even more conducive to keen conversation, technical exchanges and, of course, business dealings. The next event will be 2012.



MIBA Completes Takeover of Coatings Firm

Miba AG, Laakirchen, Austria; has completed the takeover of Teer Coatings Ltd., Droitwich, UK; a supplier of polymer coatings, electroplated overlays, and PVD coatings. Miba acquired a 24.9 % interest in Teer in 2009.

The coatings company will be integrated into the Miba Coating Group which has plants in Vorchdorf and Niklasdorf, Austria. "With the takeover of technology leader Teer Coatings we are expanding our expertise and product portfolio in the highly specialized coating segment," says Peter Mitterbauer, chairman and CEO of the Miba Group. Teer Coatings has about 50 employees and annual sales of approximately 6 million USD (4 million GBP).

For more information, visit www.miba.com

First Commercial Beta Version of Waverider™ Spraying Technology Delivered

CenterLine (Windsor) Limited, an industry leader in joining and forming technologies, is pleased to announce that it has shipped the first commercial Beta unit of its Waverider[™] technology to the Industrial Materials Institute (IMI) of the National Research Council of

Canada (NRC), in Boucherville, Quebec.

Since 2003, Supersonic Spray Technologies (SST), a division of Centerline (Windsor) Ltd, has



been supplying commercial low-pressure cold spray equipment and supplies to customers in the automotive, glass, aerospace, defense, and research fields. In 2008, Centerline adopted the commercialization of the Shockwave Induced Spraying Process (SISP) invented by Professor Bert Jodoin at the University of Ottawa. This new process takes full advantage of the thermal and kinetic effects of a shock wave in a supersonic flow to heat and accelerate powdered materials by pulsing high pressure gases at high frequency. Waverider is the brand name for the commercial application of this process. Essentially, Waverider allows solid-state spraying of harder and advanced materials including stainless steels, aluminum alloys, titanium, braze alloys, nickel alloys, cermets, and nano-structured materials at significantly improved deposition efficiencies and desposition rates while also being cost effective.

> The commercialization of Waverider by CenterLine was made possible by financial contribution, in addition to technical and business advisory services, from NRC's Industrial Research Assistance Program (NRC-IRAAP).

> *For more information*, contact Ed Malison - ed.malison@cntrline.com, Julio Villafuerte julio.villafuerte@cntrline.com or visit www.cntrline.com. Both can be reached at 519.734.8464.

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INDUSTRY NEWS

Metal Powder Industry Rebounding



After several years of declining shipments, mainly due to falling light-vehicle production in North America, the powder metallurgy (PM) industry has returned to a growth track, reports Michael E. Lutheran,

MPIF president, at PowderMet2010, the 2010 International Conference on Powder Metallurgy & Particulate Materials in Hollywood, Florida. The industry began turning the corner slowly during the second half of 2009, and the trend has continued into the first quarter of 2010.

For more information, visit www.mpif.org.

New Cold Spray Information Platform

We would like to draw your attention to our new information platform for cold spraying and for the KINETIKS[®] cold spray systems: the website "Cold Spray Technology" – www.coldspraying.info.

The initiators of this project – Prof. Thomas Klassen (HSU Hamburg), Peter Richter (CGT GmbH), Rolf Philipp (Aircraft Philipp GmbH & Co. KG) and Peter Heinrich (Linde AG, Linde Gas) – have made it their objective to inform you, easily and quickly, about the latest developments and findings in the field of cold spraying and the KINETIKS[®] cold spray systems produced by CGT GmbH.

The website provides you interesting news and reports on cold spray technology, equipment, accessories and gas



DeWAL Industries offers the highest quality, most complete line of thermal spray tapes — aluminum foil, fiberglass fabric, siliconeimpregnated fiberglass, and combinations of these materials.

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supply, as well as literature references, dates and press releases.

We look forward to you visiting us at www.coldspraying.info.

Mit freundlichen Grüßen / Yours sincerely,

Peter Heinrich, The Linde Group, Linde Gas Headquarters

High-Performance Ceramic Coatings: Markets and Technologies

Report Highlights:

- New developments and recent patents in highperformance ceramic thermal spray, PVD, CVD and other coating techniques;
- Current and potential applications for high-performance ceramic coatings;
- Market projections for ceramic coatings in all the major applications, including data for 2008, estimates for 2009, and 5-year forecasts, with compound annual growth rates (CAGRs), through 2014;
- Profiles of current industry players, including suppliers of equipment, consumables, coating service providers, and users;
- A review of the economic/market opportunities for industry participants and new entrants.



Source: BCC Research

For more information, refer to report #AVM015E published February 2010, contact Andrew Hunt, Marketing and Technology Director, BCC Research, 781.489.7301 x630 or visit www.bccresearch.com

WHERE IS YOUR ARTICLE? The SPRAYTIME Editorial Staff

encourages and welcomes your contribution.







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SG 2026 - Cr₂O₃ 3% porosity - 51% DE 61 g/min deposition rate 120 g/min feed rate

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Stork Materials Testing and Inspection Achieves ISO 9001:2008 Certification

Stork Materials Technology is pleased to announce that on March 19, 2009, Stork Materials Testing and Inspection in Rancho Dominguez achieved certification to ISO 9001:2008 by Det Norske Veritas Inc. Det Norske Veritas Certification, Inc. is accredited under the Aerospace Registration Management Program. The certification acknowledges that SMT&I "has been found to conform to the Management System Standards ISO 9001:2008 and EN/JISQ/AS9100:2004 and has been audited in accordance with the requirements of AS9104A."

Rigorous aerospace auditing process

By earning this certificate, Stork SMT&I passed a rigorous auditing process; certification is a demonstration of its achievement of a high standard of quality in its nondestructive testing and chemical processing inspection services for aerospace suppliers. The Southern California facility also supports customers in automotive, manufacturing, defense, and other industries.

Quality Manager John Rapp said, "We took on the DNV challenge months ago and our entire team has worked very hard to ensure a smooth auditing process and earn our ISO 9001 certificate. We're very proud of this achievement, but more importantly, we're proud of the fact that it means our laboratory consistently achieves superior quality and reliability for our customers."

Meeting customer demand

General Manager Larry Culbertson added, "Many people share credit for this accomplishment. Our staff came together as a cohesive force to examine and polish our operational performance in almost every aspect of the



laboratory. Our customers also played an important role; the quest for ISO-ANAB certification

was driven by their requests for more comprehensive testing support. We're glad we listened to them and grateful for their feedback and encouragement. We are honored to accept this recognition of our effectiveness as a leading supplier of critical services to the aviation and aerospace industry."

About Stork and Stork Cellramic

Stork Materials Testing & Inspection is a member of the Stork Materials Technology group of companies. Stork Materials Testing & Inspection in Rancho Dominguez, CA, provides a unique combination of materials testing and consulting for clients worldwide. Our professional staff and state-of-the-art laboratories enable us to support aerospace, automotive, manufacturing, defense, and other industries with fully-accredited, ISO 9001:2008 and Nadcap-certified nondestructive testing (magnetic particle testing, liquid penetrant testing, ultrasonic testing, and radiographic inspection) and chemical processing services.

For more information, please visit the Stork Cellramic website at www.storkcellramic.com. and the Stork Materials Technology website at www.storksmt.com.

Thermal Spray Pavilion and Conference at Fabtech November 2-4, 2010 Atlanta, GA USA For more information, visit www.fabtechexpo.com See page 9 for advertisement.



Larson adds LED Explosion Proof Lights for Paint Spray and Thermal Spray Booths

Combining bright light output, color temperature control and 5-year bulb life, Larson Electronic "magnalight.com" augmented their line of explosion proof lights with UL 844 Class 1 Division 1 LED lights paint spray booth lights. Available in 4-ft and 2-ft lengths, the explosion proof lights can be configured with 2 or 4 LED tube lights for

optimal area coverage within paint spray or thermal spray coating booths.



Larson Electronic "magnalight.com" announced the addition of several new LED

explosion proof spray booth lights for hazardous location area use. With a UL Class 1 Division 1 and Class 2 Division 1 rating, these spray booth certified lights offer more light output than high output fluorescent alternatives, but with lower electricity usage and 5.5 year bulb life. Operators can be OSHA compliant in their spray booths, while reducing the cost of electricity consumption and the cost associated with re-lamping these explosion proof lights. The EPL-48-2L-LED and EPL-48-4L-LED are the 4-ft versions of the LED explosion proof LED lights and the EPL-24-2L-LED is the 2ft configuration. These LED explosion proof spray booth lights are made in the USA and feature both surface and pendant mounting options. Wheeled cart options, including the EPLC-48-4L-LED and the EPLCD-48-2L-LED offer operators the ability to move the paint spray booth lights in and around the hazardous location area to suit the particular coating application.

"These LED explosion proof lights complement our existing line of explosion proof fluorescent lights for spray and coating booths while offering lower cost of operation and less maintenance," said Rob Bresnahan with Larson Electronic "magnalight.com". "These hazardous location lights are UL certified for both flammable vapors and dusts,

making them suitable for all types of manufacturing and processing. Some of the unique applications we have discovered include manufacturing applications

where UV is not permissible. Our LED lights do not produce any UV light at all, so instead of looking for ways to block the UV generated by fluorescent lights, operators have found they can get exactly the bandwidth of light they require, and eliminate bandwidths below 420 nm. We can adjust color temperature and bandwidth to suit specific applications with these explosion proof lights."

Larson Electronics offers a wide array of explosion proof lighting for hazardous location areas, including handheld, portable and surface mount lighting with UL Class 1 and Class 2 ratings. You can learn more about Larson Electronics and the full range of hazardous location lights at magnalight.com or contact 1-800-369-6671 (214-616-6180 international).

WHERE IS YOUR ARTICLE? The SPRAYTIME Editorial Staff encourages and welcomes your contribution.



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Turbocoating; Eurocoating; Artec; Vacuum Surtec; Euro Bearings; and Surface Dynamics, Cincinnati and Memphis; are pleased to announce the establishment of a new group, Unitedcoatings Group. The group unites the companies connected to Mr. Nelso Antolotti, the president of the group.

Unitedcoatings Group employs more than 300 people in seven companies, five in Europe and two in the United States and ten production sites. The group is strongly devoted to R&D and more than 10% of the employees are researchers.

Each company has its own independent management. At the same time, they create synergy in order to improve their performances, in both technology and organization. In this way they improve the range and quality of their products.

In fact, the experience in several sectors (gas turbine and energy, biomedical, automotive, oil and gas, general industry and aerospace) allows the companies to supply the coatings and also all related services.

The group unites the advantages of a small and medium enterprise (flexibility, responsiveness, low-cost structure) with all the advantages of a large corporation (financial

Unitedcoatings Group serves the customers from the coating service to the complete plant solution package including the final financial control. In particular the services

provided are: construction of complete coated components, development of coating solutions, coating know-how, standard and customized thermal spray equipment, fully automated thermal spray equipment for mass production, laboratory and quality procedure, coating post treatment, plant layout design according to lean manufacturing principles and plant management with a lean manufacturing approach.

The Unitedcoatings Group was officially presented to the thermal spray world at the ITSC 2010 in Singapore.

The group is under the control of Mr. Selso Antolotti's family. In Singapore, Linda Antolotti, Nelso's daughter, was introduced. Linda is presently completing her educational study and is being involved in the activities of the group.

The strength of Unitedcoatings Group is based on a long experience in coating service, which allows the guarantee of the quality, but also the productivity and the final product costs. It is the new age of thermal spray, the new approach to the coating service born on a strong basis.

For more information, contact Andrea Scrivani, Turbocoating Italy, email andreascrivani@turbocoating.it or visit website www.unitedcoatingsgroup.com



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SPRAYTIME Second Quarter 2010

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Mr. James R. Dale, jdale@mpif.org

International Thermal Spray Association 208 Third Street Fairport Harbor, OH 44077 USA itsa@thermalspray.org www.thermalspray.org

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CALENDAR OF EVENTS JULY 2010

26-AUG 1 Honolulu, Hawaii USA 17th International Conference on Composites or Nano Engineering, ICCE-contact David Hui, Professor of Mechanical Engineering Univ. of New Orleans, tel: 504.280.6192, email: dhui@uno.edu

AUGUST 2010

1-5 Cairns, Australia 7th Pacific Rim Int'l Advanced Materials and Processing PRICM7 - visit www.materialsaustralia.com.au

15-17 Beijing, China *China Composites Exposition* - email infor@chinacompositesexpo.com

25-26 Tampa, FL, USA *Test Methods for Composite Materials Seminar* - visit www.seminarsforengineers.com/comptest

SEPTEMBER 2010

13-16 Glendale, AZ USA *ITEA Symposium, Evaluating Operational Effectiveness in a Joint Mission Enfironment* - contact Int'l Test and Evaluation Assoc. 703.631.6220, web www.itea.org

21-23 Halifax, Nova Scotia *AMTS Atlantic Manufacturing Technology Show* - contact Society of Manufacturing Engineers Canada, Janine Saperson 888.322.7333.222, email canadasales@sme.org

27-28 Akron, OH USA ASM TSS Cold Spray Conference - contact ASM Int'l tel: 440.338.5151, email: customerservice@asminternational.org, website: www.asminternational.org/coldspray

OCTOBER 2010

3-6 Orlando, FL USA *Titanium 2010* - contact Int'l. Titanium Assoc. 303.404.2221, email ita@titanium.org, web www.titanium.org

4-7 Houston TX USA *Turbo39 39th Turbomachinery Symposium* - visit www.turbolab.tamu.edu

5-7 Toronto, Ontario Canada *CMW Canadian Mfg. Week Featuring Weld Expo* - visit www.cmwshow.ca

10-14 Florence, Italy *Powder Metallurgy World Congress & Exhibition* - visit www.epma.com/pm2010

18-21 Houston, TX USA MS&T2010 Materials Science & Technology - contact ASM Int'l. 440.338.5151x0, email memberservicecenter@asminternational.org, web www.matscitech.org

20-21 Kissimmee, FL USA *Manufacturing Innovations Aerospace/Defense* - contact Society of Manufacturing Engineers www.sme.org/aerospacedefense

26-30 Hanover, Germany EuroBlech 2010 - visit www.euroblech.com, www.euroblech.de, email info@euroblech.com

NOVEMBER 2010

2-4 Atlanta, GA USA FABTECH Int'l & AWS Welding Show and Metalform- with a Thermal Spray Pavilion and

Conference - organized by American

Welding Society, www.aws.org, Fabricators and Mfgrs Assoc, www.fmafabtech.com, Soc. of Mfg. Engineers, www.sme.org/fabtech

3-5 Albuquerque, NM USA *SVC 2009 Topical Conference* - Society of Vacuum Coaters, email: svcinfo@svc.org, web: www.svc.org

8-9 Sao Paulo, Brazil *Corrosion and Wear 2010* - contact Natalie Nemec ASM Int'l 440.338.5151, email natalie.nemec@asminternational.org, web www.asminternational.org

14-15 Dallals, TX USA *36th Int'l Symposium for Testing & Failure Analysis (ISTFA)* - visit www.asminternational.org **4DEC Boston, MA USA** *2010 MRS Fall Meeting* - visit www.mrs.org

DECEMBER 2010

14-16 Orlando, FL USA *Power-Gen International* - visit www.power-gen.com

2011

FEBRUARY 2011

2-4 Ft. Lauderdale, FL USA *Composites & Polycon 2011 -* 703.525.0511 or visit www.acmanet.org

13-16 Doha, Qatar 1st Middle East Turbomachinery Symposium - sponsored by Texas A&M University at Qatar and Qatar

Petroleum, http://middleeastturbo.tamu.edu

27FEB-3MAR San Diego, CA USA TMS Annual Meeting - visit www.tms.org/meetings

APRIL 2011

16-21 Chicago, IL SVC TechCon Annual Technical Conference - visit www.svc.org

MAY 2011

18-21 San Francisco, CA USA *PowderMet 2011 Annual Conference* - Metal Powder Industires Federation, Sandra Leatherman email sleatherman@mpif.org, web: www.mpif.org

JUNE 2011

5-8 Lake Como, Italy *The 11th International Conference on the Mechanical Behavior of Materials* - visit mpif.org

6-10 Vancouver, British Columbia, Canada *TurboExpo* 2011 - visit visit visit email

igti@asme.org



28JUN-2JUL Dusseldorf, Germany Int'l Foundry Trade Fair and Int'l Metallurgical Technology Trade Fair -312.781.5180, web www.mdna.com

SEPTEMBER 2011

26-29 Hamburg, Germany ITSC 2011 Int'l Thermal Spray Conference & Exposition with DVS Congress & DVS Expo 2011 - contact ASM em: customerservice@asminternational.org, website: www.asminternational.org/tss or email DVS at tagungen@dvs-hg.de

OCTOBER 2011

2-5 San Diego, CA USA *Titanium 2011* -contact Int'l. Titanium Assoc. 303.404.2221, email ita@titanium.org, web www.titanium.org

2012

JUNE 2012

11-15 Copenhagen Denmark ASME *TurboExpo 2012* - visit www.turboexpo.org, email **TURBOEXPO** igti@asme.org

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The International Thermal Association is closely interwoven with the history of thermal INTERNATIONAL spray development

ASSOCIATION Bringing Technology and Technique Together



Chairman Hayden

company representatives to better understand member benefits. A complete list of ITSA member companies and their representatives are at www.thermalspray.org

ITSA Mission Statement The International Thermal Spray Association is a professional trade organization dedicated to expanding the use of thermal spray technologies for the benefit of industry and society.

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ITSA Scholarship Opportunities

The International Thermal Spray Association offers annual Graduate Scholarships. Since 1992, the ITSA scholarship program has contributed to the growth of the thermal spray community, especially in the development of new technologists and engineers. ITSA is very proud of this education partnership and encourages all eligible participants to apply. Please visit www.thermalspray.org for criteria information and a printable application form.

ITSA Thermal Spray Historical Collection

In April 2000, the International Thermal Spray Association announced the establishment of a Thermal Spray Historical Collection which is now on display at their headquarters office in Fairport Harbor, Ohio USA.

Growing in size and value, there are now over 30 different spray guns and miscellaneous equipment, a variety of spray gun manuals, hundreds of photographs, and several thermal spray publications and reference books.

Sprav

in this hemisphere.

Founded in 1948,

and once known as

Metallizing Service

Contractors, the association

has been closely tied to

most major advances in

thermal spray technology,

equipment and materials,

industry events, education,

and

A company-member trade

association, ITSA invites all

interested companies to

talk with our officers,

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Future plans include a virtual tour of the collection on the ITSA website for the entire global community to visit.

This is a worldwide industry collection and we welcome donations from the entire thermal spray community.

ITSA SPRAYTIME Newsletter

Since 1992, the International Thermal Spray Association has been publishing the SPRAYTIME newsletter for the thermal spray industry. The mission is to be the flagship thermal spray industry newsletter providing company, event, people, product, research, and membership news of interest to industrial leaders, engineers, researchers, scholars, policy-makers, and the public thermal spray community.

ITSA Headquarters

208 Third Street, Fairport Harbor, Ohio 44077 USA tel: 440.357.5400 fax: 440.357.5430 itsa@thermalspray.org www.thermalspray.org

Become a Member of The **International Thermal Spray** Association



Your company should join the International Thermal Association

Bringing Technology and Technique Together Spray

now! As a companymember, professional trade association, our mission is dedicated to expanding the use of thermal spray technologies for the benefit of industry and society.

ITSA members invite and welcome your company to join us in this endeavor.

Whether you are a job shop, a captive in-house facility, an equipment or materials supplier, an educational campus, or a surface engineering consultant, ITSA membership will be of value to your organization.

The most valuable member asset is our annual membership meetings where the networking is priceless! Our meetings provide a mutually rewarding experience for all attendees - both business and personal. Our one day Technical Program and half day business meeting balanced by social activities provide numerous opportunities to discuss the needs and practices of thermal spray equipment and processes with one another.

As an ITSA member, your company has excellent marketing exposure by being listed on our website along with a multitude of additional benefits.

ITSA member companies are also highlighted in the ITSA booth at several trade shows throughout the year (International Thermal Spray Conference ITSC, Fabtech International and AWS Welding Show Thermal Spray Pavilion, Weldmex Mexico, and TurboExpo in 2009).

If you would like to discuss the benefits of your company becoming a member of the International Thermal Spray Association, we suggest you contact Kathy Dusa at our headquarters office or visit the membership section of our www.thermalspray.org website.

International Thermal Spray Association Welcomes New Member

Cadorath Plating Ltd. has joined the International Thermal Spray Association.

The Cadorath Group of Companies consists of a diverse number of organizations, wholly owned by Cadorath Holdings Inc. The use of its unique approaches to special processing and manufacturing challenges coupled with its commitment to quality and reliability has transformed the Cadorath Group from a one-man shop to a thriving, growing competitive force.

Cadorath now operates with over 160,000 sq ft of combined manufacturing and office space with just over 170 employees, in 2005. Their unique group of companies service many business sectors from agriculture to Aerospace Sectors.

Thermal spraying is done in two of the companies – Cadorath Plating (commercial thermal spraying) and Cadorath Aerospace (thermal spraying is done as part of helicopter repair procedures).

For more information, contact ITSA company representative John Read via email johnr@cadorath.com or visit website www.cadorath.com

ITSA On Facebook

Dear Thermal Spray Colleague,

Yes, we did it! The International Thermal Spray Association now has a very basic Facebook Page. If you are a Facebook user, you can simply type in thermal spray in the top search engine space and it will come up. At that point, select "like" and you will be connected to the ITSA page. Right now, we have our ITSA promotion video on the page, plus a recent message from me.

We are not sure how and to what extent this will be used, but it was apparent by some recent and continuing requests that we be there.

If you are a Facebook user, enjoy. If not, do not give it any concern.

LinkedIn Has Thermal Spray Group

Dear Thermal Spray Colleague,

Not sure if you are a member of the business social network "LinkedIn", but thought you would want to know that there is a group titled "Thermal Spray Coating" currently with 64 members and some discussions.

If you are interested, please visit www.linkedin.com and join the network and then join the group.

WHERE IS YOUR ARTICLE? The SPRAYTIME Editorial Staff encourages and welcomes your contribution.

Journal of Thermal Spray Technology® A publication of the ASM Thermal Spray Society Abstract: Sensors in Spray Processes P. Fauchais and M. Vardelle

This paper presents what is our actual knowledge about sensors, used in the harsh environment of spray booths, to improve the reproducibility and reliability of coatings sprayed with hot or cold gases. First are described, with their limitations and precisions, the different sensors following the in-flight hot particle parameters (trajectories, temperatures, velocities, sizes and shapes). A few comments are also made about techniques, still under developments in laboratories, to improve our understanding of coating formation such as plasma jet temperature measurements non-symmetrical in conditions, hot gases heat flux, particles flattening and splats formation, particles evaporation. Then are described the illumination techniques by laser flash of either cold particles (those injected in hot gases, or in cold spray qun) or liquid injected into hot gases (suspensions or solutions). The possibilities they open to determine the flux and velocities of cold particles or visualize liquid penetration in the core of hot gases are discussed. Afterwards are presented sensors to follow, when spraying hot particles, substrate and coating temperature evolution, and the stress development within coatings during the spray process as well as the coating thickness. The different uses of these sensors are then described with successively: (i) Measurements limited to particle trajectories, velocities, temperatures, and sizes in different spray conditions: plasma (including transient conditions due to arc root fluctuation in d.c. plasma jets), HVOF, wire arc, cold spray. Afterwards are discussed how such sensor data can be used to achieve a better understanding fo the different spray processes, compare experients to calculations and improve the reproducibility and reliability of the spray conditions. (ii) Coatings monitoring through in-flight measurements coupled with those devoted to coatings formation. This is achieved by either maintaining at their set point both in-flight and certain spray parameters (spray pattern, coating temperatures...), or defining a good working area through factorial design, or using artificial intelligence based on artificial neural network (ANN) to predict particle in-flight characteristics and coating structural attributes from the knowledge of processing parameters.

Read the entire article in the June 2010 Issue Visit www.asminternational.org/tss

Editor: Christian Moreau Lead Editor: Basil Marple Editor Emeritus: Christopher C. Berndt Associate Editors: Kendall Hollis, Seiji Kuroda, and Armelle Vardelle

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WHERE IS YOUR ARTICLE? The SPRAYTIME Editorial Staff encourages and welcomes your contribution.

Join the ASM Thermal Spray Society Online Community Forum

ASM TSS members welcome visitors to register and access the new *searchable* forum, as well as explore the new online community.

To subscribe, visit http://tss.asminternational.org, choose networking and forum for instructions.



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Free poster by Linde and the GTS (Association of Thermal Sprayers) which illustrates the different thermal spray processes (suitable for framing).

Send request for poster via email to itsa@thermalsprav.org







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Society of Manufacturing Engineers www.sme.org/fabtech



Precision Metalforming Association www.metalform.com

Stork Cellramic New Operations Manager

Stork Cellramic of Milwaukee, WI, is pleased to announce



the appointment of new Operations Manager *Ken Ebenhoch*.

Mr. Ebenhoch worked for over 25 years in high-tech manufacturing companies before coming to Stork Cellramic. In positions like senior project engineer and manufacturing manager, Ebenhoch worked in laser technology, machining,

injection molding, and vacuum technology and assembly. He holds two US patents as well as an MS degree in Engineering Management and a BS in Mechanical Engineering Technology from Milwaukee School of Engineering.

Stork Cellramic general manager Daniel Ruiter said, "After a short search, we have filled a new position of Operations Manager with Mr. Ken Ebenhoch. Ken was an outstanding candidate and easy choice to develop this role. With his strong technical and management background and extensive experience with Lean Manufacturing methodology, we are confident in both his vision for the business and his ability to achieve it.

"Ken will be responsible for all production operations and will manage the production department of Stork Cellramic. We also expect that he will be an active participant in our Lean and Six Sigma initiatives and share his wealth of experience with our Continuous Improvement programs. Please join us in welcoming Ken to the team."

To reach Ken Ebenhoch, send an email to kenneth.ebenhoch@us.stork.com.

About Stork and Stork Cellramic

Stork Cellramic, Inc., a member of the Stork Materials Group of companies, provides professional application of Engineered Coatings for industrial components using plasma, HVOF, and arc-spray processes. Stork Cellramic is also a leading manufacturer of anilox rolls, specializing in the resurfacing of worn anilox, idler and water rolls for the printing industry.

For more information, please visit the Stork Cellramic website at www.storkcellramic.com. and the Stork Materials Technology website at www.storksmt.com

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Thermal Spray Pavilion and Conference at Fabtech November 2-4, 2010 Atlanta, GA USA For more information, visit www.fabtechexpo.com See page 9 for advertisement.

Weartech Welcomes Back Steve Maynard as Sales Manager

Weartech (Pty) Ltd has appointed *Steve Maynard* as a Sales Manager. Steve started his career at NEI John Thompson, England in its production and development welding department before emigrating to South Africa in the early eighties.

He promoted the sales of Metco thermal spraying equipment and consumables



for over 10 years before joining various thermal spray and welding contractors, servicing and liaising with clients in the steel mining, petrochemicals and electrical industries.

Steve worked for Weartech for 2 years before moving to Welding Alloys (Pty) Ltd (WASA) in the year 2000 to market their range of tubular fabricating and hardfacing welding products and equipment before recently returning to Weartech (Pty) Ltd.

For more information, visit www.weartech.co.za or email adam@weartech.co.za

Genie Products Welcomes Anthony Keith Wood as Plant Manager



Genie Products Inc. is very pleased to welcome *Anthony Keith Wood* as Plant Manager. Keith brings twenty eight years of experience in machining and operations management to the position. Prior to joining Genie

Products, Keith held a number of positions with a division of Trinity Industries Inc. including machinist, tool

and design engineer, quality assurance inspector, supervisor of research and development, and most recently, plant manager of the Tool and Die Division.

At Genie Products, Keith is directly responsible for all aspects of production management including design, process control and quality assurance. His experience, insight and focus on quality have been instrumental in the implementation of several major process improvements during his short tenure with Genie Products Inc.

For more information, visit www.genieproducts.com.



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Dr. Basil Marple is Retiring From the National Research Council of Canada



After 35 years of excellent work, **Dr. Basil Marple** is retiring from National Research Council of Canada (NRC). Basil began to work at the NRC in 1975 as a technician. Due to his continuing high professionalism and dedication to this institution, he was allowed by the NRC to pursue undergraduate studies (Chemical

Engineering) at Dalhousie University (Canada) and PhD studies (Ceramic Engineering) at the University of Pennsylvania (USA).

From a technician he was promoted to researcher, reaching the rank of Senior Research Officer (SRO) of the NRC in 1999. The SRO position is one of the most prestigious research positions at the NRC. It is important to point out that Basil changed the aim of his career in the mid 1990s, from a ceramist to thermal sprayer. Within less than one decade he was able to establish himself as a recognized scientist in the thermal spray community.

His service to our thermal spray community is impeccable. He has been the main editor of four proceedings of the International Thermal Spray Conferences (ITSCs 2003, 2006, 2007 and 2009) and five special issues of the *Journal* of Thermal Spray Technology and appointed Lead Editor

on the same journal in 2009. He has been elected twice as an ASM-TSS Board member by his peers. He has helped to organize several thermal spray conferences and symposia for ASM International in the last decade.

Basil has authored/coauthored more than 50 peer reviewed and 40 conference papers; the majority of them in the area of thermal spraying. He is also a recipient of two US Patents on ceramic engineering. In 2008, Dr. Marple coauthored a book chapter on Bionanotechnology, edited by renowned editorial company, CRC Press; and he has given invited presentations in several conferences or symposia. He has received three best paper awards from the ITSCs 2000, 2001 and 2003 in the areas of WC-Co processing and the incorporation of solid lubricants in the microstructure of thermal spray coatings. In 2008 he received the Journal of Thermal Spray Technology best paper award of the 2007 edition of the Journal, regarding the use of laser ultrasonics to measure the thickness, density and elastic modulus of WC-Co coatings.

Due to his scientific excellence and professionalism, he was invited by ASM-TSS to become the main editor of the Proceedings of the ITSCs 2003, 2006, 2007 and 2009 and five special issues of the ASM-TSS *Journal of Thermal Spray Technology* (2006-2010). In fall 2009, he was appointed Lead Editor of the same Journal. Among his major achievements in thermal spraying, he was one of the pioneers on the engineering of nanostructured YSZ TBCs to counteract sintering effects, which is currently attracting the attention of the aerospace industry. Basil has also identified the "process window" for engineering nanostructured (multimodal) HVOF-sprayed WC-Co coatings. He was able to show the effectiveness of multimodal powders in producing highly wear resistant coatings with high deposition efficiency values over a wide range of particle temperature and velocity values. This work received a Certificate of Merit Award from ASM-TSS during the ITSC 2003.

ASM International has just elected Basil a 2010 Fellow. The honor of Fellow represents recognition of his distinguished contributions in the field of materials science and engineering. His citation reads: "For significant contributions to the science and technology of thermal spray, and for providing leadership in disseminating technical information." This honor will be conferred upon Basil at the Convocation of Fellows to be held during the ASM Awards Dinner on Tuesday, October 19, 2010, in Houston, Texas.

Fortunately Basil will not leave us for good. He will continue to work part-time at the NRC as an invited researcher. We all will have the great pleasure to interact with him in our future thermal spray conferences and symposia.

For more information, contact Basil via email basil.marple@cnrc-nrc.gc.ca



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ArcMelt Names Hubbs Director of Business Development

Mark A. Hubbs was named the Director of Business Development at ArcMelt[™] Corporation. Mark will be responsible for identifying and prioritizing new sales opportunities, data mining and the assessment of current customers for potential new applications.

Prior to joining ArcMelt, Mark was the Vice President of Sales for Paric Corporation

and the Director of Sales and Marketing for Clayco Accurate. Mark comes to ArcMelt with many years of experience in business development.

ArcMelt Corporation, headquartered near St. Louis, Missouri, is setting new standards in the development and production of multi-element alloys. We offer an array of composite coatings and weld overlays that will deploy certain structures and alloy chemistries, even in the most severe industrial environments. We can help many economy-critical operations, including those found in power generation, refining, paper and pulp, mining, and so many more. Give us call, and let us be your preferred choice in material development and application.

For more information, visit www.arcmelt.com.

CenterLine Hires Account Manager

CenterLine (Windsor) Ltd. is very pleased to announce



Chuck Roberts has joined them as an Account Manager.

Chuck is a proven seniorlevel manager with over 35 years of engineering, project management and sales experience involving local, national and international projects. automation His most recent experience was engineering manager at

Ultimate Manufacturing Systems.

Chuck's knowledge of machinery automation and advanced machine tool systems will be of great value in assisting customers to select and integrate CenterLine's complete range of metal joining, forming and coating products, systems and services.

CenterLine (Windsor) Limited is a valued supplier to the automotive, mass transit, aerospace and defense industries of standard and custom systems, products and services satisfying resistance welding, metal forming and cold spray applications. With over 50 years of business experience, CenterLine continues to develop advanced production technologies and processes to assist its customers in maintaining their competitive advantage.

For more information, visit www.cntrline.com.



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F.W. Gartner Appoints Michael Breitsameter As Director Of International Business



In line with FW Gartner Thermal Spray Ltd's plans for growth in emerging markets, we are proud to welcome *Michael Breitsameter* as Director of International Business. Michael has worked for a broad cross-section of thermal spray equipment, materials suppliers and jobbing shops including stints as VP sales and marketing of

The NanoSteel Company, GM of Sulzer Metco Canada, sales and product management positions with TAFA including PlazJet product manager and European sales manager, European marketing manager for UTP and most recently as LaserBond's sales and marketing manager.

His unique knowledge and experience of developing cutting-edge technologies in emerging markets will be utilized to nurture key relationships with technology partners around the world. Michael will be dividing his time between Australia and the United States while traveling extensively to work with FW Gartner's global network of partners. In recent years demand for FW Gartner's unique materials and proven technology base has grown consistently. Michael will be addressing this demand and facilitating the provision of the FW Gartner standard of service and technical innovation wherever in the world it is required. This will provide our major clients a single point of contact for their critical thermal spray, laser cladding and Kinetic Spray application requirements.

For more information, visit www.fwgartner.com or email Michael at mbreitsameter@fwgts.com.

Is Your Employee Listed? Send notice to spraytime@thermalspray.org

Thermal Spray Pavilion and Conference at Fabtech November 2-4, 2010 Atlanta, GA USA For more information, visit www.fabtechexpo.com See page 9 for advertisement.

Join the ASM Thermal Spray Society Online Community Forum

ASM TSS members welcome visitors to register and access the new *searchable* forum, as well as explore the new online community. *To subscribe*, visit http://tss.asminternational.org, choose networking and forum for instructions.

Chris Power Speaks at Joint Army Navy Marine Air Force Conference



Christopher A. Power, Technical Director at Genie Products Inc., was invited to speak at a recent Joint Army Navy Marine Air Force Conference. The presentation outlined techniques and coatings he has developed for spray forming rocket nozzle engines as part of a project he is working on for NASA.

Chris has over 20 years of experience in the thermal spray field. Before joining Genie Products Inc., Chris held the title of senior engineer for Rocketdyne Division of Pratt and Whitney. He later was director of manufacturing at Plasma Processes Inc. where he was in charge of developing parameters for vacuum plasma, air plasma, and HVOF spray coatings.

Along with his recent work at NASA, Chris has also worked on spray forming components in vacuum plasma spraying (VPS) using rhenium, tungsten, molybdenum, beryllium, copper, copper alloys, and ceramics. Chris has received 28 technology awards from NASA, 3 patents and, in 1993, he was honored as Inventor of the Year at Marshall Space Flight Center.

Chris is responsible for product development at Genie Products. His wealth of experience and technical knowledge will serve as a foundation for current and future corporate projects. Chris is also available for consultation with Genie Products' customers on all aspects of thermal spray application or for overall system issues. He has experience working with VPS, APS, HVOF, flame spray and cold spray.

Genie Products Inc. is a major manufacturer of replacement parts for the thermal spray industry. The Company is ISO 9001:2000 registered.

For additional information, please visit www.genieproducts.com.

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Larry Pollard Presented With 43 Year Plaque



Scott Goodspeed (left) presenting Larry Pollard with plaque.

At their April membership meeting, the International Thermal spray Association presented *Larry Pollard* with an appreciation plaque on behalf of his retirement. The inscription reads: *In acknowledgement and appreciation of his 43 years dedication to the advancement of thermal spray technology and his outstanding contribution to the success of our industry.*

Following is a note from Larry to the thermal spray community.

"Dear Friends of Thermal Spray,

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After nearly forty-three years in and around the Thermal Spray industry, I have retired at the end of March 2010.

My career start was with Sherritt Gordon Mines, Inc. in their Phys Met Lab, which has since been spun off to Sulzer Metco Canada.

My next move was to Deloro Stellite in Belleville, Ontario. Here is where I was introduced to the Plasmadyne SG 100 as Deloro was their Canadian distributor.

Deloro dropped the SG 100 and the torch went on to Eutectic Castolin, NYC. I followed the torch.

Another opportunity came up with Deloro in western Canada of which I took.

An opportunity came up a couple of years later for me to set up a shop in Edmonton, AB. Canada Coatings LTD. was set up utilizing the SG 100 as its main feature. The company was destroyed by a rare tornado for AB and the building was destroyed.

As I had sold so many SG 100 systems in Canada, Plasmadyne asked me to work for them direct as their Canadian rep. I accepted.

In December of 1986 things really started to change. Miller Electric purchased Plasmadyne and moved the head office from CA to Appleton WI. The company was renamed to Miller Thermal Inc. (MTI). As almost the complete staff was new to the thermal spray industry, in 1988 they asked me to relocate to Appleton. I accepted. Then a few years later MTI was spun off to Illinois Tool Works. From there it was sold to Praxair Surface Technologies, Inc.(PST). After a couple of years PST purchased TAFA in New Hampshire and decided to consolidate the two companies by closing the Appleton operation and moving it to New Hampshire. As with all the other Appleton employees, I chose not to move with the company.

During the move decision-making process, an opportunity came up with Progressive Technologies, Inc. (PTI) in Grand Rapids, MI. to manage their Thermal Spray division. I took the opportunity and after 10 good years decided to retire.

So here I am, but I am doing a little consulting in my spare time.

Look forward to hearing from you. Larry"

For more information, contact Larry Pollard at email alien_eh@juno.com.

ITSA Announces "Supporting Societies" Membership Category

The International Thermal Spray Association is pleased to announce a new "Supporting Societies" membership category to establish communication with other associations/societies involved in thermal spray and surface engineering activities worldwide.

This is an ideal method for membership exchange between organizations. For information, please contact Kathy Dusa at the headquarters office via email to itsa@thermalspray.org

Huffman Announces Kim Hammar Director of Operations

Huffman Corporation announced that it has added a key resource to their senior management team to address growth in the flight and industrial qas turbine



manufacturing and medical markets. *Kim Hammar* from Charlotte, NC has joined as their Director of Operations.

Kim will be responsible for all aspects of plant operations, including materials, shop floor, facilities, quality and information technology. Kim brings a wealth of 30 years of global manufacturing plant

management experience. He has held position of progressive responsibility with Okuma and Figgie International.

Roger H. Hayes, president said, "We are thrilled to have Kim with his depth of world class manufacturing experience join our team."

Founded in 1961, Huffman Corporation provides manufacturing process technology to the flight, industrial gas turbine, and medical markets. The company's main products are multi-axis superabrasive grinding machine systems, laser powder fusion machine systems, and precision abrasive waterjet machine systems. Huffman is an ISO 9001:2008 and CE-approved supplier with global sales and service.

For more information, visit www.huffmancorp.com.

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ITSA Awards Three Scholarships

The International Thermal Spray Association has awarded three \$2,000.00 graduate scholarships.

Mark Cuglietta from University of Toronto in Canada.



Mark's interest in fuel cells started early in his undergraduate experience at the University of Alberta.

Currently his group is experimenting to create novel solid oxide fuel cell (SOFC) layers. He foresees himself to have a permanent future in the production of SOFCs using

thermal spray techniques.

For more information, contact Mark via email mark.cuglietta@utoronto.ca

"Andrew" Ang Siao Ming from Swinburne University of



from Swinburne University of Technology in Australia.

Andrew's PhD studies on thermal spray technology have an emphasis on research on lightweight ceramics coatings.

Andrew has worked as an engineer trainee, progressing to a thermal spray research engineer at Singapore Technologies Kinetics where he operated the first cold spray coating facility within South East Asia.

For more information, contact Andrew via email aang@groupwise.swin.edu.au

Wilson Wong from McGill University in Canada



Wilson's interest in cold spray has him studying the effects of cold spray processing variables and post cold spray processing on the properties of cold sprayed pure titanium and titanium aerospace alloys. He is confident that cold gas dynamic spray will become one of the most important thermal spray techniques in the future.

For more information, contact Wilson via email wilson.wong@mail.mcgill.ca

For ITSA scholarship information, please visit website www.thermalspray.org.

Metallisation MD Faces 3 Lakes Challenge



Team members(left to right): Mervyn Jackson, Dave Martin, Terry Lester, and Duncan Spittle.

Metallisation's Managing Director, *Dr Terry Lester*, is to complete the 3 Lakes Challenge in July in aid of Cancer Research. The challenge is to dive the three highest altitude lakes on the British mainland in the fastest time possible. The aim of the challenge is ideally to complete all three dives within 24 hr.

The three lakes involved are Loch Coire an Lochan in the Cairngorms at an altitude of 3268 ft (996 metres), Red Tarn in the Lake District at 2356 ft (718 metres) and Ffynnon Lloer in North Wales at 2132 ft (650 metres). The clock starts ticking the moment Terry leaves the car park for the difficult walk to the first lake. This adds to the challenge, as he has to carry all of his diving equipment with him. Each dive must be a complete, fully immersed dive, which lasts for a minimum of 10 minutes. The car journey between each lake is a total of 436 miles.

Terry is completing the challenge in aid of Cancer Research and has set up a just giving page, http://www.justgiving.com/Reservoir-Dogs, which he hopes will help him raise his target of £1,000.

For more information on Metallisation, visit www.metallisation.com.

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