



photo of
Jessica Johnson
by John Ondov

Weld-Ed: You Can Get There From Here!

As an industry, welding is large with \$34.1B/year gross revenue, and provides an enabling manufacturing process for \$3.1T of manufactured products; or approximately one third of US GDP. Today advanced welding and materials joining applications are at work in virtually every economic sector in America. From aerospace to agriculture, defense and infra-structure, highly skilled welding and joining technicians are making it happen.

"I know when I graduate there will be great job opportunities waiting for me."

~ Jessica Johnson, welding student

In fact, it is estimated that 95% of American productivity involves welding and joining in some way to get the goods to the end user. With so much to support the importance of welding and joining across such a broad spectrum of American history, enterprise, and output, there exists today a 200,000 worker shortage of skilled welders and technicians to get the job done!

In July of 2007, the National Science Foundation (NSF) awarded funding for the creation of a National Center of Excellence in Welding Education and Training (Weld-Ed) to Lorain County Community College in Elyria, Ohio. The purpose of this grant is to identify and address what the welding industry needs in relation to welding and materials joining education and training.

The Center's Goals are to:

- Increase the number of welding and materials joining technicians to meet America's on-going workforce needs.
- Promote enhancements in welding technician education and training.
- Enhance faculty professional development and continuing education for welding and materials joining using state-of-the-art equipment and technology.

Weld-Ed Center Director Ken Smith said, "The actual work of becoming a national center for welding and materials joining education and training is a significant undertaking by itself. We have made good progress because we have talented and committed partners at the table with us. Our presence at, and participation in, the annual AWS Show is growing and guided by the great staff at AWS."

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Weld-Ed



Above left: Welding students observing robotic weld at North Dakota State College of Science. Below, Joel Johnson, Associate Professor at North Dakota State College of Science - a Weld-Ed affiliate, instructing a class of future welders. (photos by Roger Miller)

Don't miss the June 2009 Summer Workshop: Partnering for Success

Hosted by the Southeastern Institute for Manufacturing & Technology (SiMT) at Florence-Darlington Technical College (FDTC) in South Carolina. **Focus areas will include:** Machine Tool Technologies, Rapid Prototyping/Manufacturing, 3D/Virtual Reality, National Robotics, and Pipe Welding. **Tours will include:** ESAB, Roche Carolina, GE Medical, and the Darlington Raceway.

Who Should Attend?

Leaders and Instructors of:

- Business, Industry & Corporate Training
- Workforce & Economic Development
- Advanced & Applied Technologies
- Continuing Education
- IT Programs



NCATC President's Message

In his book, "A Tale of Two Cities", Charles Dickens begins with the quote, "It was the best of times, it was the worst of times; it was the age of wisdom, it was the age of foolishness; it was the epoch of belief, it was the epoch of incredulity; it was the season of Light, it was the season of Darkness; it was the spring of hope, it was the winter of despair; we had everything before us, we had nothing before us; we were all going directly to Heaven, we were all going the other way." While I certainly am not Dickens, I would suggest these words hold special relevance and meaning for us

today. It is such words with which I would begin as well. Looking around, I wonder if things could get any worse. Just today, as I pen this note, the announcement of more layoffs fills the media. Major, stable companies have been forced to reduce their workforces, costing seasoned employees their livelihoods. One such company was, at one time, considered impenetrable. Our major manufacturers and their suppliers struggle with the basics of keeping the doors open.

In the mist of this turmoil, the economy weighs heavily on our minds as we await the next swing, closure or dip in the market, wondering how bad it will be. News of recovery plans, stimulus packages, and bailout proposals are discussed in our nation's capitol daily. We, once again, have witnessed the impact of globalization as we see the markets in other countries following suit after ours. At the same time, new demands and mandates are placed on our businesses as the nation's focus turns eco-friendly. "Green" or renewable resources that are environmentally friendly present opportunities and challenges while new technologies loom on the horizon.

Lest I appear as the prophet of gloom, I must point out that, in the mist of this tumultuous back drop, I believe the efforts to recreate the sustainable competitive advantage for our businesses and our nation rest with our Advanced Technology Centers (ATCs). While we all look forward to the resources provided for recovery, we also know that it is the application of those resources that will ultimately make the difference. Collectively we have the power, technology, and ability to move the economy and our nation to the forefront. NCATC will continue to serve as your champion in this arena. Already, your coalition leadership has been called upon for advice and suggestions on the best methods of approach and application. My personal commitment to you, along with the Board, is the non-wavering continuation of this effort. We can become Dickens' "season of light." We are a network of advanced technology expertise, ready and able to confront the challenges facing our economy and build a new prosperity for our future generations.

Willie E. Johnson
Director, Great Plains Technical Center (OK)

NCATC Membership Benefits

- FREE membership in the National Council of Advanced Manufacturing (NACFAM) - valued at \$5,000 a year
- FREE access to best practices from most of the top Advanced Technology Centers (ATC) in the nation
- FREE access to the membership list-serv where members readily exchange and share information and resources
- FREE access to our information-rich website
- Discounted registration for our annual national conference and our summer workshop
- Reduced costs for technical consulting through the Member Assistance Program (MAP)
- Exclusive discounts for products and services from our strategic partners, including:
 - Amatrol, Desktop Factory, Festo, HAAS Automation, Lab-Volt, Lincoln Electric, Materialise, NextEngine, Inc., NOCTI, Pro-Metal, The Quality Group, ToolingU, 3D Rapid Prototyping, Solidworks, and Z Corporation
- Recognized external evaluation services for national grants such as Department of Labor (DOL), Department of Transportation (DOT), and the National Science Foundation (NSF)
- Discounted prices for "Necessary Skills Now."

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Executive Director's Message

NCATC Colleagues,

Well 2008 was a pretty good year for most of us – but ended on quite a sour note. Since 2009 has started with even more sour notes we believe that there is much hope in the air to begin turning the corner for our beleaguered economy very soon. We all know that it will not happen quickly, as there are many pieces to the recovery puzzle that must be addressed. We are also hopeful that the two significant events that we have been planning for 2009 prove to be positive experiences for many of our members this year.

Our June 2009 Summer Workshop, hosted by the Southeastern Institute for Manufacturing & Technology (SiMT) at Florence-Darlington Technical College (FDTC) in South Carolina, will be one of the best ever! Focus areas will include Machine Tool Technologies, Rapid Prototyping/Manufacturing, 3D/Virtual Reality, National Robotics, and Pipe Welding. Tours will include ESAB, Roche Carolina, GE Medical, and the Darlington Raceway. Some folks are already planning to bring their families and head to Myrtle Beach (only 1 hour away) for the following week-end or more – sounds like a win-win!

And, as we move into our next twenty years – the 21st NCATC Annual Fall Conference will be hosted by the College of DuPage (COD) in Chicago, Illinois, September 30 through October 2, 2009. You will not want to miss this year's national event – as many new and important topics, speakers, and programs will be unveiled. NCATC conferences provide not only an excellent venue to find innovative and globally competitive ideas that work – but also helps you develop long-term camaraderie that increases your personal and professional network. And, the registration fee includes everything!

I look forward to seeing you at both events this year ...

Best regards,
Craig

Welcome New Members

The NCATC Membership Committee is pleased to announce the addition of these new member organizations since the last newsletter was published.

Full Centers:

Houston Community College (TX)
Suffolk County Community College (NY)
North Dakota State College (ND)

Associate Members:

Ivy Tech Community College - Bloomington Region (IN)
Coosa Valley Technical College (GA)
Spartanburg Community College (SC)

Strategic Alliance Partners:

Manufacturing Skill Standards Council – MSSC (DC)
Virtual Training Center – VTC (AZ)
Oxygen Education (IN)

Full contact information, Web site addresses, and email addresses for each member is located in the Members section of the NCATC Web site. If you are interested in joining NCATC, membership applications are available on the NCATC Web site, www.ncatc.org, under the "Member

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Ken Smith continues, "The national skills panel project has provided more focus and definition about the complex nature of a day-in-the-life of a welding and joining technician in today's industry. Recruitment of traditional, minority, under-served, and physically challenged students is underway on several fronts. Professional development of faculty, and the creation and availability of enhanced education and training resources, is the next big challenge facing the Center.



Ken Smith (photo by Roger Miller)

"We all agree that pursuing a degree as a welding and joining technician happens both in the classroom and the lab; it's both theory and practice; it's being able to multi-task and manage other workers to do what it takes to get the job done right. The innovative and emerging trends in the field today will require regular tune-ups for a good employee to stay current and remain a real asset to the employer. It's our job to connect the dots ... match the need with a quality resource. As America gets back to work, the task of putting it together across the manufacturing spectrum will require skilled technicians. That puts the Weld-Ed Center at the right place and at the right time."

Contact the Center for:

- Student recruitment and retention strategies
- Tools for welding educators
- Curriculum enhancement ideas
- Professional development opportunities for faculty

"Welding has always been perceived as a dirty low end job, but I'm here to tell you times have changed and it's a very good profession to go into! Your career can climb in the industry, from being a basic welder, all the way up to a welding engineer ... the top of the game. Of course it takes education and a number of years to achieve that, but you certainly can pursue a lifelong career in the welding industry."

~ Joel Johnson, Associate Professor
North Dakota State College of Science

In order to promote the professional development of educators in the welding and materials joining field, Weld-Ed is offering a three credit hour summer training course for high school, technical and community college instructors. The training will be: June 15-26, Texas State Technical College – Waco, TX; July 13-24, the Pennsylvania College of Technology, Williamsport, PA; August 3-14, Yuba Community College, Marysville, CA. This course normally costs \$4,000, however; Weld-Ed is providing a subsidy of \$3,500, which results in the student only paying \$500, which includes hotel, two meals and course materials.

Center contact information:

Ken Smith - Director / Principal Investigator
Weld-Ed National Center
www.weld-ed.org
1-866-529-WELD (9353)



WCJCs Process Technology program has a very high placement success, with graduates averaging \$43,000 annually. Lyondell is a major supporter of this program with employees serving as instructors. It hires program graduates, as do OXEA and Conoco Phillips. The program currently has 162 students enrolled for Spring.

Bay City Training Center – Education for Our Future

STP Center for Energy Development

The eagerly awaited Center for Energy Development training facility in Bay City is officially open with 162 students being taught by Wharton County Junior College (WCJC) instructors. The new center will emphasize Process Technology and Power Technology programs in response to the employment needs of Matagorda County's industrial employers. The impressive new facility is the result of a \$4.5 million investment by the Bay City Community Development Corporation (BCCDC). The creative renovation replaces a decaying eye-sore with a very eye-catching and attractive new facility for the south side of Bay City.

BCCDC Executive Director D. C. Dunham and County Judge Nate McDonald were the driving forces on the Bay City-Matagorda County United Committee seeking to locate a larger facility where WCJC could expand its Bay City Process Technology program and teach a wider range of general education and technical courses.

After 18 months of searching for a building, BCCDC was prepared to construct a new 20,000 square foot building on Hwy 35 when STP



Inside the doors of WCJC which is co-located with STP Energy in Bay City, TX – guests and students find a welcoming reception area leading to many hands-on labs and classrooms.

announced its expansion. That provided an opportunity to house up to 100 new design engineers and employees who would be working on Units 3 and 4. BCCDC used the opportunity to acquire a vacant 86,000 square foot K-Mart building. Clark Young, Bay City Public Works Director, supervised the renovation process. BCCDC leased 40,000 square feet to STP to encourage these new employees to live

~ see **STP Center** next page



One of the hands-on training labs in the WCJC ATC (STP Site) which focuses on Process Technology training for industry. NOTE: the floor has been scraped down to original concrete (some flooring adhesive still remains) then coated with a hardened clear epoxy to seal it. This makes for a very useful and pleasing environment and saved money in the process. Also – large floor to ceiling overhead doors are installed in all labs to enable easy equipment moves (in/out) which provided for maximum flexibility.

Focus on Growth Strategies

On November 20, 2008, El Centro College/Bill Priest Institute was one of three sponsors for a state-wide event focused on economic development and growth. The event "Genuine Texas – Strategies for Growth and Competitiveness" was attended by more than 100 people from across the state.

Governor Rick Perry's Office of Economic Development and Tourism, the Texas Manufacturing Assistance Center (TMAC) and El Centro/BJP hosted Mr. Doug Hall, Founder of Eureka! Ranch in a thought-provoking session about the need for businesses to focus on profitability and to embrace the idea that profit margin growth is not random. Doug Hall shared important concepts about what makes

us great - how focus on service, quality, and people is not enough – that we must identify what customers value and what makes our products and services unique.

Aaron Demerson, Executive Director for the Office of the Governor – Economic Development & Tourism Division – also spoke about the importance of brand identity for Texas Manufacturing and shared information about the recently created Advisory Board to help Texas Economic Development.

BJ Fontaine, TMAC, was the final speaker and shared lessons learned by TMAC as they help organizations apply Lean Concepts in Kaizen and Value Stream Mapping workshops, many of which are part of the Bill

Priest Institute Consortium training programs.

Also attending was Representative Patrick Rose who is serving his third term in the Texas Legislature representing Blanco, Caldwell, and Hays counties. Representative Rose is the founder of the Texas Manufacturers Caucus and also authored and passed legislation that created a "Made in Texas" logo, or as we call it, a "Genuine Texas" logo.

For additional information about Eureka! Winning Ways, please contact Genie Dillon, Director of Solutions Development of the Bill Priest Institute, Dallas County Community College District. Email: g.dillon@dcccd.edu or call (214) 860-5810.



With funding from STP Energy, Regional Economic Development, Wharton County Junior College, and many others this building has been transformed into a workforce and economic development dynamo. Looking down the center of the building with a skylight-domed atrium capable of holding hundreds of guests for informal sessions, tradeshows, etc.. This center atrium separates STD Energy offices which house 80-100 employees (left) and Wharton County Junior College's (WCJC) – Advanced Technology Center (right).

STP Center *continued from page 4*

in Bay City and Matagorda County. WCJC occupies 20,000 square feet, and a 6,000 square foot "public street" serves as an entry and mingling place between the WCJC and STP sides of the building. About 20,000 square feet remain unfinished.

It is expected that WCJC will expand into the STP space when it vacates in 2011.

STP's future employee needs led to the creation of a new two-year Power Technology program to train employees for nuclear and conventional power generation plants. Seventeen existing and proposed power plant expansions or new construction projects are proposed for the five-county region around Matagorda County. In addition, retirement is adding to the demands for educated and skilled replacement workers. STP requires that its new employees have at least a two-year post-high school certificate or degree.

Helping Customers Define ROI

In today's chaotic times, it seems like everyone focuses on cash flow, spending, and investments. Corporate customers are selective in their choices of what to spend and they want to know what return of investment they can expect.

At the Bill Priest Institute for Economic Development, a campus of El Centro College that is part of the Dallas County Community College District, we have found success in conducting a ROI survey of our customers that asks specific questions about business results linked to training we have provided. The survey we use is a modified survey of one used by the National Institute for Standards and Technology. We customized it to fit our training delivery model for corporate customers that participate in grant-funded consortiums. The aggregated survey results reveal a huge positive impact in the areas of profitability and performance improvement for our customers. Several areas that the survey causes customers to consider and evaluate are: Cost Saving \$\$ Value, Job Retention, Job Creation, Increase in Sales, % Profitability per employee, Investments in information systems or software, plant and equipment, workforce practices or employee skills, Profit margins, Savings in work system productivity and/or investments, etc.

The results have been phenomenal – all quantified by the customer and proves the value of the training programs we are delivering. Many of our customers have not done this type of analysis before we introduced the survey tool to them. Customers report that they will continue to do this type of analysis and use the data to make better decisions about the training they provide their employees. In addition, using a method like this helps build stronger relationships with customers. They realize that you truly care about doing more for them than just delivering training.

If you would like a copy of the survey or want additional information, please contact Genie Dillon, Director of Solutions Development of the Bill Priest Institute, Dallas County Community College District. Email: g.dillon@dcccd.edu or call (214) 860-5810.

Future Trends – Server Virtualization

I'm often asked at NCATC and other national conferences and events, what living in Hawaii is like? To be honest, it is paradise. A short 5 minute drive takes me from my home to the warm, healing azure blue waters of the Pacific. At night, I fall asleep blanketed by light trade winds that breeze across our islands creating a soothing temperate climate.

For all its beauty, Hawaii also faces many of the same issues that confront any major U.S. metropolis. We are faced with responsible development, economic stratification, diversifying our economy, educating our populace and perhaps the most irritating of all urban ailments, TRAFFIC.

Trapped in gridlock, we wait as engineers plan better traffic flows, the amazing zipper lane gets deployed creating a contra-flow lane almost by magic, and politicians debate a fixed guide way rail system with an estimated cost of a mere \$4.28 billion for a 20 mile route. All the while, we continue to sit in our cars wishing that our neighboring carbon monoxide producers could simply be plucked off the highway.

Well, I have great news! There is a place where you can simply pluck cars off the highway as a real solution for eliminating traffic! That highway starts from your computer and takes you to the information super highway. "How is this being done?" you ask.

The answer... server virtualization! This is one of the hottest trends to watch for that will be hitting your IT training programs. Server virtualization utilizes software to optimize a server's performance, allowing network administrators to capitalize on the power of modern server hardware by placing multiple server and

network instances on a single machine. Through the use of software we now can literally, remove servers off the information superhighway!

The benefits of this technology include significantly lower energy costs, lower equipment costs, ease of disaster recovery, as well as the ability to implement fully resilient services, just to name a few. To give you an idea of the cost savings involved, at PCATT, your NCATC partner in the Pacific, every new IT project started typically resulted in an initial \$7,000 investment for the purchase of a server, software, and other related expenses. Through server virtualization, we immediately realized a savings of \$7,000 on each new project. In addition, we reduced our energy consumption by an estimated \$90 per server, per full-time project, per year!

As with any new trend, server virtualization is not a silver bullet and has its limitations. Services that typically require server clustering such as load sharing or shared computing power for high resource demand applications tend to work best with dedicated server hardware. But for network services such as DNS, email, and web servers, virtualization is a great solution!

To learn more about server virtualization, visit the NCATC website www.NCATC.org for helpful links on this amazing future trend that will free up traffic from the information super highway!

~ Scott Murakami, Director
Pacific Center for Advanced Technology Training
Honolulu Community College
874 Dillingham Blvd.
Honolulu, HI 96817

Gateway Technical College Partners with Business Community to Provide Innovative Training

Wisconsin's Gateway Technical College garnered national attention for its computer numeric control (CNC) boot camp program, featured on the college's Racine Campus as part of the ABC Nightly News, with Charles Gibson.

Gateway's boot camps represent just one of several instances in which the college has partnered with the business community to provide innovative training—and ripple out to reach businesses and colleges elsewhere.

ABC featured the innovative boot camp program developed by the Racine County Workforce Development Center and implemented by Gateway in the October 10 broadcast.

The program model also includes a welding boot camp for high-schoolers and adults, and an industrial maintenance boot camp is planned for early 2009.

"It helps us to quickly and innovatively train unemployed and underemployed workers with the skills our local employers say they need to remain competitive," says Debbie Davidson, Gateway Vice President, Workforce and Economic Development Division.

Gateway also has forged strong partnerships with national companies to offer innovative educational training. Snap-on Incorporated, headquartered in Kenosha, Wisconsin, has become a strong partner in the development of Gateway's Horizon Center for Transportation Technology. Snap-on has

contributed financially, with industry insight and with building and equipment-planning expertise.

Snap-on partnered with Gateway to offer its first-ever Diagnostics Certification. The diagnostics technician courses—taught by Gateway instructors—are available to advanced Gateway students and technician professionals.

Snap-on is also taking the partnership on the road. The S-Tech College Road Trip highlights the quality education provided at Gateway's Horizon Center as a model for other colleges to follow.

"Working with America's top companies like Snap-on has repositioned our vision on what global preparedness really means," says Gateway President Bryan Albrecht. "Graduates of the Horizon Center program have academic credentials, industry certifications, and a network of experienced industry leaders serving as mentors as they advance into the automotive industry."

An association with IBM also impacts students locally and globally. As a member of the IBM Academic Initiative, IBM provides cutting-edge equipment, software, and expertise to Gateway to provide students with a quality education in the IBM i platform, one of the most-used platforms by companies around the world. IBM worked with Gateway instructor Jim Buck to

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20th Anniversary Scrapbook

Last Fall, we celebrated NCATC's 20 year anniversary at Sinclair Community College in Dayton, Ohio.



NCATC Founder Dan Hull (OP-TEC) at the 20th Anniversary Fall Conference Gala



NCATC Executive Director Craig McAtee presents Dan Hull with the Hull-Marseilles Innovation Award



2008/2009 NCATC Presidents Will Johnson & Lorna Finch (left) give kudos to the Planning Committee from Sinclair Community College



Dr. Steve Johnson, President, Sinclair Community College, during Friday's events at SCC



NACFAM CEO, Eric Mittelstadt, gives the Keynote Address during Thursday's Luncheon



Attendees gather before the 20th Anniversary Fall Conference Gala



Former NCATC Board Presidents and PAC Chair



Conference attendees during the KCTCS AMTEC presentation



John Calver presenting for Thomas Nelson Community College



Attendees tour the AIM Center at SCC

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South Seattle Community College (WA)

Dr. Perry Ward
Lawson State Community College (AL)

Dr. Marshall "Sonny" White
Midlands Technical College (SC)

Gateway Technical College continued from page 6

provide IBM i training workshops and sent Buck to South Africa to provide training to IBM clients there.

A partnership with SC Johnson, A Family Company, resulted in the development and implementation of an onsite corporate college which provides skills training to more than 300 employees each semester.

The entire program is housed at SC Johnson's Waxdale facility, which provides the space and equipment needed for the program. Employees benefit from Gateway faculty expertise while the instructors gain experience on other models of equipment. Gateway soon will add programs to its manufacturing mix as it opens a remodeled area for an industrial maintenance technician program.

The innovations will continue as long as Gateway's business, industry, and community partners look to the technical college to prepare workers for local jobs. For more information about this program contact Debbie Davidson at 262-564-3422 or Davidsond@gtc.edu

To contact NCATC, please call, email, fax or write us at:

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Hold the date:

NCATC Fall Conference

September 30 – October 02, 2009
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