RCBI has strengthened its ties in West Virginia's Northern Panhandle with the signing of a Memorandum of Understanding with West Virginia Northern Community College (WVNCC). Taking part in the May 19 ceremony in Wheeling were WVNCC President Martin J. Olshinsky and Vice President of Economic and Workforce Development J. Michael Koon. Representing RCBI were Lucinda Curry, coordinator of workforce development and technical trainer, and Barry Morlachetta, manufacturing sales representative.

The memorandum is designed to help facilitate manufacturing assistance and economic development opportunities throughout the Northern Panhandle. WVNCC serves Ohio, Brooke, Hancock, Marshall, Wetzel and Tyler counties, providing both degree programs and workforce training to meet needs of the area's residents.

Under the new partnership, WVNCC and RCBI will extend RCBI's highly successful machinist skills and software programming training into the Northern Panhandle. Northern will provide appropriate space for the program, recruit and hire faculty and enroll students. RCBI will provide curriculum and will assist in other areas to ensure that the program meets the quality standards of RCBI programs.

The two organizations will jointly offer workforce programming to strengthen the manufacturing workforce of the region. They also will work with economic development organizations, government entities, public schools and employers to determine ways the partnership can strengthen manufacturing and enhance economic development. (See Charlotte Weber’s column on Page 2.)

**RCBI Expo July 14 at South Charleston**

The latest developments in manufacturing technology will be on display Tuesday, July 14, at a Machining and Technology Expo at the Robert C. Byrd Institute for Advanced Flexible Manufacturing (RCBI).

More than 25 vendors will be displaying their wares at the event, which will run from 10 a.m. to 4 p.m. at RCBI’s Charleston Advanced Manufacturing Technology Center, located on the campus of Marshall University Graduate College at 100 Angus E. Peyton Drive in South Charleston. Featured will be the Mastercam X4 Rollout from 1 p.m. to 3 p.m.

**New MTP classes to begin Aug. 24**

Fall Term classes are scheduled to begin Aug. 24 for the RCBI Machinist Technology Program in Huntington, Bridgeport and Rocket Center. Larry Cartmill, recruiter for RCBI training programs, said this year's numbers of applicants for the program are running ahead of the same time last year.

With recruitment activities scheduled throughout the summer, Cartmill said he anticipates another increase in student population. Students may enroll in the Machinist Technology Program up to the first day of classes.

Meanwhile, graduation ceremonies are being arranged for current students, Cartmill said. Huntington's graduation is planned for Aug. 10, Rocket Center's for Aug. 11 and Bridgeport's for Aug. 12.
Our mission at the Robert C. Byrd Institute for Advanced Flexible Manufacturing (RCBI) is two-fold: To introduce new technologies to manufacturing companies and create a pool of technically skilled individuals who are ready to go to work immediately in manufacturing jobs.

Both missions are critically important to the economic well-being of West Virginia.

Since RCBI was established in 1990, we have worked with nearly 4,400 manufacturers, located not just in virtually every corner of West Virginia but in adjacent states as well and even as far away as Florida and California. Collectively, these manufacturers employ more than 75,000 workers with a total annual payroll of more than $1.8 billion.

RCBI is West Virginia’s only Advanced Manufacturing Technology Center. As such, we believe we have a special commitment to helping meet industry needs.

At our centers in Huntington, South Charleston, Bridgeport and Rocket Center (in the state’s Eastern Panhandle), manufacturers have local access to more than $20 million worth of state-of-the-market production equipment, new technologies, workforce development initiatives, machinist training and quality implementation, along with an array of technical support.

Now, in forging a new partnership with West Virginia Northern Community College, we have expanded our efforts in the Northern Panhandle.

Often, manufacturers will gain first-hand experience by leasing time on our equipment and then, convinced they need it for their own operation, will purchase similar equipment. To date, private industry has purchased 160 lathes, mills and other pieces of high-tech production equipment after using our equipment at RCBI. This technology transfer effort represents nearly $22 million of investment by industry.

At the same time that we work with manufacturers and their employees, our Machinist Technology Program provides hands-on training for men and women just out of high school and older workers who are seeking a new career path. Graduates of our program earn nationally recognized certification from the National Institute for Metalworking Skills (NIMS) and have an opportunity to earn a two-year college degree.

Begun in Huntington in 1998, RCBI’s training program now boasts 250 graduates, all of whom have earned multiple national certifications – more than 1,100 in all – from NIMS. Our graduates also command a 90 percent job placement rate. We’re enormously proud of the men and women who have completed our program. They’ve gone on to jobs in an industry known for providing the types of wages and benefits that it takes to buy a house and raise a family.

Nearly half of our program’s graduates have already earned associate degrees, and more of them are in the process of earning degrees from either Marshall Community & Technical College (MCTC) in Huntington or Potomac State College of West Virginia University in Keyser.

Our graduates also command a 90 percent job placement rate. We’re enormously proud of the men and women who have completed our program. They’ve gone on to jobs in an industry known for providing the types of wages and benefits that it takes to buy a house and raise a family.

Much of RCBI’s success can be traced to the strong links we have forged with partners such as MCTC and Potomac State. And now we are pleased to welcome West Virginia Northern as a partner.

RCBI signed an agreement May 19 with West Virginia Northern in which we pledge to work side by side on a broad range of issues, including machinist technology training, workforce programs focusing on industry-identified worker skills and the economic development of the region. We at RCBI see a world of opportunity ahead for our joint effort with Northern.

And, looking ahead, we are eager to forge other similar partnerships, with a goal of building a better future for West Virginia manufacturers and workers in today’s increasingly high-tech world.

Charlotte Weber is Director and Chief Executive Officer of the Robert C. Byrd Institute for Advanced Flexible Manufacturing. For additional information about RCBI, visit www.rcbi.org.
Four RCBI Employees recognized

Sheila Harmon, Mike Gray, Erica Cheetham and James E. Casto have been honored as RCBI Employee of the Month for February, March, April and May, respectively. Their selections were announced by RCBI Director and CEO Charlotte Weber.

Sheila Harmon

Ms. Harmon, who became a member of the RCBI staff in 1999, serves as Finance Director.

A native of Catlettsburg, Ky., she graduated from Boyd County (Ky.) High School in 1975 and from Ashland (Ky.) Community and Technical College in 1977. She has been married to Roger Harmon for 26 years and they reside in Proctorville, Ohio.

Prior to joining RCBI she served with Ashland, Inc. and Marathon Oil Co. from 1976 to 1999.

Ms. Weber described her as extraordinarily good in her role as financial manager and unfailingly pleasant in her dealings with colleagues and RCBI’s clients in the manufacturing sector.

Mike L. Gray

Gray, who serves as Marketing Sales Representative and Technical Trainer, is stationed at the RCBI Advanced Manufacturing Technology Center at Bridgeport, W. Va. A graduate of Huntington (W.Va.) High School, he attended Marshall University and Fairmont State College, where he completed a degree in Aviation Maintenance Management.

Following a seven-year stint, 1967-74, as a jet aircraft technician and crew chief with the U.S. Air Force, he spent more than 30 years in the aviation industry before joining the RCBI staff July 1, 2007. Gray, who holds a private pilot’s license, began his career in 1976 at Kanawha Airport in Charleston, W.Va., as an aircraft mechanic at the Executive Air Terminal. From 1978-80 he was service manager/chief inspector of Capitol Aircraft there and from 1980 to 1981 was service manager/director of maintenance for Executive Air Terminal.

He spent a major part of his career, 18 years, with Pratt & Whitney Engine Services at Bridgeport in a variety of positions, including Service Center operations manager. He moved to Texas in 2004 as director of quality control at Dallas Airmotive, Inc. From there he joined Turbomeca-USA in Grand Prairie, Texas, rising to new engine production operations manager.

Erica Cheetham

Ms. Cheetham is Director of Quality Services at RCBI.

The Quality Certification group helps manufacturers develop and implement documented quality systems to help ensure that they remain effective, sought-after and environmentally conscious suppliers. To this end, RCBI offers a strong schedule of specialized, quality-focused courses in the latest applications and techniques and regularly helps companies develop work instructions and supervisory management skills.

A lifelong resident of Huntington and a 15-year RCBI employee, Ms. Cheetham earned a Bachelor of Arts degree in Industrial Psychology in 1993 and a Master of Science degree in Adult and Technical Education in 1995, both from Marshall University. She also has completed extensive training programs in Lean Manufacturing and as an ISO 9001 2000 auditor/lead assessor. In addition to her work with RCBI, she served as QSM-900 auditor/manager representative for American National Rubber Co., Louisa, Ky., in 1995-96.

The daughter of Fred and Jenny Maier of Lesage W. Va. and Jerry Arthur of Proctorville, Ohio, she serves on the board of directors of the Little Victories Animal Rescue organization and is a member of Highlawn Presbyterian Church. Her interests include running, collecting stained glass lamps and porcelain dolls, and caring for her four dogs – two Akitas, Gunther and Nikita, and two rescued animals, Sarge and Duppy.

James E. Casto

Casto is RCBI Associate Director for Public Information and serves as associate publisher of Capacity, the RCBI semi-annual magazine. Prior to joining the RCBI staff, he was a reporter and editor at The Herald-Dispatch in Huntington for more than 40 years, retiring in 2004.

He is married to the former Norma Ciccarello.

In addition to his newspaper work, he’s written more than 150 freelance articles for magazines and newspapers and is the author of 10 books on local and regional history. His latest, “The Great Ohio River Flood of 1937,” was published earlier this year.

On his retirement from The Herald-Dispatch, Marshall presented him with its John Marshall Medal of Civic Responsibility in recognition of his services to the university and the community. In 2005, the City of Huntington Foundation inducted him as a member of its Greater Huntington Wall of Fame. In 2006, the Cabell County Public Library named the James E. Casto Local History Room in his honor and the West Virginia Library Association honored him with its Literary Merit Award.
Strong, lightweight composites are today’s material of choice in aviation and aerospace applications. For example, the airframe for Boeing’s newest jet transport, the 787 Dreamliner, is 50 percent composites by weight – enabling it to use 20 percent less fuel compared with other aircraft of similar size.

But manufacturing and repairing composites requires the use of autoclaves. Operating in much the same fashion as the pressure cooker on your grandmother’s kitchen stove, autoclaves used in composites work are large, pressured steel containers that use heat and pressure to cure and bond together carbon-fiber composites and other materials, including Kevlar and glass. Autoclaves are costly to maintain and operate and often are purged with nitrogen, which adds additional costs to the process.

Now, staffers at the Robert C. Byrd Institute for Advanced Flexible Manufacturing (RCBI) are researching potential out-of-autoclave (OOA) processes that could be used in the manufacture and repair of aerospace-grade composite structures.

The research, now in progress at the RCBI Composites Technology & Training Center in Bridgeport, W.Va., was initiated by the Defense Advanced Research Projects Agency (DARPA), the Department of Defense agency that’s responsible for developing new military technology.

RCBI’s partners in the research are Boeing Phantom Works and Cytec Industries, Inc., a leading manufacturer of composite materials.

“RCBI is excited to be involved in this important piece of applied research,” said RCBI Director & CEO Charlotte Weber. “The successful outcome of this project will impact not just Boeing but the whole aerospace industry, as well as others that already use autoclave processing.”

Len Tartamella, lead RCBI researcher on the project, noted that “the potential industry benefits are mutually substantial in operating cost savings to the foremost composite manufacturers...”

Cytec, with headquarters in West Paterson, New Jersey, has successfully developed a second-generation composite material that is being tested in the repair of existing first-generation composites.

The questions to be answered by the research now in progress: Can aircraft manufactured with autoclave-processed parts be repaired with next generation material, without the use of an autoclave? And can OOA materials withstand the same stress forces on newly manufactured parts as traditional autoclave parts are able to withstand?

RCBI has developed and is testing four repair procedures. One has been performed and appears successful but still must undergo final quality analysis by Boeing Phantom Works, with headquarters in St. Louis, Missouri.

Phantom Works evolved into a free-standing research and development organization within Boeing after the company acquired the unit in its merger with McDonnell Douglas in 1997. The unit originally was created by McDonnell Douglas as a response to Lockheed Martin Corporation’s famous Skunk Works, which was responsible for such technological leaps as the F-117A, the first fighter jet nearly invisible to radar. McDonnell Douglas took the word Phantom from its own F-4 Phantom, one of the most successful fighters the company built.

RCBI provides access to cutting edge technology and technical training to manufacturers across the region. Operating from Advanced Manufacturing Technology Centers in Huntington, Charleston, Bridgeport and Rocket Center (near Keyser in West Virginia’s Eastern Panhandle), its mission includes developing a quality, just-in-time supplier base for the Department of Defense, the National Aeronautics and Space Administration (NASA) and the commercial sector.

A strategic partnership between RCBI and NASA, the RCBI Composites Technology & Training Center supports the region’s growing aviation and aerospace industries, the composites-manufacturing sector, other commercial market sectors and the Department of Defense.
LARRY OF THE JUNGLE – Armed with a “snake hook,” RCBI’s Larry Cartmill poses outside the La Selva Tropical Research Station in a Costa Rican jungle. The veteran herpetologist recently returned from his fourth adventure “chasing snakes” in tropical jungles.

All the frogs and snakes are doing well…

Some folks like to take a week in the spring and head for the beach. Others go fishing in the mountains – or perhaps plant a backyard garden.

RCBI’s Larry Cartmill prefers to go into a tropical jungle and chase snakes.

Cartmill left May 30 for the Costa Rican jungle with a small group from the U.S. Fish and Wildlife Service on a mission primarily aimed at taking a survey of tropical frogs. There’s a fungus that is rapidly spreading through frog populations worldwide, wiping out entire species. Cartmill’s group was charged with assessing the health and numbers of frogs in a specific area near the La Selva Tropical Research Station. His team, consisting of two Americans and one Costa Rican biologist, stayed at the station for several days, hiking mostly in early morning and late evening into night. They spent the torrid afternoons resting and writing.

A 2001 graduate of Lewis County High School, Stark attended West Virginia Wesleyan College and earned an Associate in Applied Science degree from Pierpont State Community and Technical College of Fairmont State University in 2007. He currently is working toward a Bachelor of Science degree in Information Systems at Fairmont State.

Prior to joining the RCBI staff, he worked for Information Research Corporation (IRC) of Fairmont. He also served as a Cisco Systems laboratory technician at Fairmont State.

His interests include family, sports, music, movies, computer gaming, cars and reading. As a member of the Air Force Junior ROTC program at Lewis County High School, he served two years as squadron commander, was twice named outstanding cadet and earned the Leadership Award three years.

Stark said he and his wife, the former Tiffany Michelle Henry of Montrose, W.Va., will soon move to the Clarksburg/Bridgeport area along with their infant son, Gavin Anthony Stark.

“Because RCBI operations are spread across West Virginia and because of our emphasis on advanced technologies, reliable information systems are essential to this organization’s success,” Ms. Weber said. “We’re very pleased to be able to add an individual with Tony Stark’s demonstrated abilities to our Information Technology staff.”

Academic credit approved for CNC machining course at RCBI

Participants in a computerized machining course offered by the Robert C. Byrd Institute for Advanced Flexible Manufacturing (RCBI) are now eligible for academic credit from the Marshall Community & Technical College.

“This is great news for our program, our students and the future labor market in the State of West Virginia,” RCBI Director and CEO Charlotte Weber said. “We are extremely pleased that we can make this additional benefit available to those individuals taking our computer-numerical-control (CNC) machinist training.”

RCBI’s Machinist Technology Program was the first in the nation to couple certification by the National Institute for Metalworking Skills (NIMS) with a two-year college degree option. Now, those who meet minimum requirements and are enrolled in RCBI’s advanced machining course are eligible to receive academic credit.

The advanced course is a hands-on introduction to CNC machine setup, tooling, operations and programming. An initial course began January 20 and included 13 weekly sessions, concluding April 14.

The CNC course was offered again beginning May 5 at RCBI Advanced Manufacturing Technology Centers in Huntington, Charleston and Bridgeport.

For additional information or to register, individuals may contact Lucinda Curry, coordinator of workforce development & technical trainer, at 304.720.7742 or 800.469.RCBI (7224) or e-mail register@rcbi.org.
John W. Grimm, who joined the RCBI staff in July 2008 as a CNC machinist and instructor in the Machinist Technology Program, died suddenly on Sunday, May 3, 2009, at Dulles Airport near Washington, D.C. He was 63 and had been residing in LaVale, Md.

At the time of his death, John was serving as site manager of the RCBI Advanced Manufacturing Technology Center at Rocket Center, near Keyser, W.Va. He was a veteran of more than 40 years in manufacturing.

He is survived by his wife of 28 years, Caroline M. (McCoy) Grimm; his daughters, Tanya M. Carson of Indianapolis, Ind., and Bernadette M. Pejic and her husband, Ned, of Broadview Heights, Ohio, and his grandchildren, Alex D. Carson, Dejan Pejic and Jasmina Pejic.

Born August 20, 1945, in Lakewood, Ohio, he was the son of the late George Warren Grimm and Margaret (Somers) Grimm.

Before joining RCBI he had been serving as technical writer/instructor for Educational Systems Workshop, Inc. at Crown Point, Ind.

A 1963 graduate of Toronto (Ohio) High School, Grimm earned a Bachelor of Specialized Studies in Industrial Management degree from Ohio University in 1995.

He began his career in manufacturing in 1966 at Weirton (W.Va.) Steel Corp., remaining there until 1994, and had additional career experience with Werner Co. in Anniston, Ala.; Advance Engineering Co. in Northwood, Ohio; Teledyne Continental Motors in Toledo, Ohio, and Fulton Industries, Inc. of Wauseon, Ohio.

Funeral services were conducted Thursday, May 7, 2009, at the Adams Family Funeral Home in Cumberland, Md.
Gary Grindley has joined the staff of the Robert C. Byrd Institute for Advanced Flexible Manufacturing (RCBI) as a quality management systems specialist, RCBI Director and CEO Charlotte Weber announced. Based at the RCBI Advanced Manufacturing Technology Center in Huntington, he will work with manufacturers throughout the state and region in implementing modern management practices.

Grindley earned his B.S. degree in Industrial Technology magna cum laude from California State University in Los Angeles in 1994; his M.S. degree in Statistics and Quality Assurance from California State University of Dominguez Hills, Carson, Calif., in 2001, and his M.B.A. degree from Loyola University of Chicago in 2004. He received a National Deans' List Scholarship Award in 1993.

Beginning in 1987, he worked successively with McDonnell Douglas Aircraft in Long Beach, Calif., as senior CNC program engineer; Progressive Engineering in Alameda, Calif., as a quality consultant; Safety Line/White Rubber Corp. in Oakland, Calif., as plant manager; Case New Holland, Inc., in Racine, Wis., as quality manager/Six Sigma champion, and John Deere Power Systems in Waterloo, Iowa, as quality systems manager. He had prior experience as a CNC programmer with Nu Tech Industries, Grandview, Mo., and as a CNC and CMM programmer at L&K Tool Manufacturing, Overland Park, Kan.

As a videographer and video editor, he has produced training videos and commercial promotions. He also is licensed as a commercial pilot and flight instructor. He earned the Eagle Scout Award of the Boy Scouts of America in 1970.

Grindley’s wife, Susanne, is quality manager at Heiner’s Bakery in Huntington. They share their Ashland home with a pair of German Shepherds.

“There is a growing demand among the region’s manufacturers for assistance and training in meeting quality certification and management standards,” Ms. Weber said. “The addition of Gary Grindley, with his extensive manufacturing quality experience, will enhance the abilities of our already highly qualified staff to continue to meet that demand.”

**Frogs and Snakes continued from page 5**

Larry's main duty was to locate snakes in the area and keep the frog researchers from stepping on them. He also captured snakes and recorded data regarding their population and condition for future research.

The adventure was a huge success, Larry reports. The team located more than 35 different species of amphibians and reptiles and nearly 200 individual frogs and snakes. The initial investigation showed the frogs were healthy and thriving without any evidence of the deadly fungus.

Of course, the jungle isn't exactly a friendly place. There are deadly snakes, spiders and scorpions as well as highly toxic dart frogs, all requiring caution and alertness. Larry reports he suffered just one snake bite. No problem – it was only “mildly” toxic.

His group departed for home June 6 “a bit tired but healthy and with all our fingers and toes intact.”

A retired Cabell County educator, Larry serves as recruiter for RCBI training courses, particularly the Machinist Technology Program. He’s the herpetologist for the Ohio University Southern Nature Center and also an adjunct professor at Marshall and Mountain State universities.

This year’s trip was his fourth to the jungles of the Peruvian Amazon and Costa Rica, which he describes as a beautiful country that is “American friendly.”

“I highly recommend Costa Rica as a vacation destination for anyone, even if you don’t want to look for snakes.”

**RCBI Expo July 14 continued from page 1**

The outside vendors will join RCBI’s experienced staff to offer equipment and software demonstrations, entrepreneurial seminars and tours throughout the day, according to RCBI Director and CEO Charlotte Weber. She said the event will be open to the public.

The Charleston Expo is another in a continuing series of efforts by RCBI to provide local access to state-of-the-art and state-of-the-market production equipment, technologies, software and hands-on technical training to manufacturers so they can successfully compete in the global market.

Additional information is available at 800.469.7224 or www.rcbi.org.

**Correction**

In the “Closer Look” feature in the Spring issue of “Technology Update,” Paul Beatty, senior manufacturing engineer and site manager at RCBI’s Bridgeport facility, was listed as living in Warren, Ohio. In fact, his home is in Lost Creek, West Virginia. We regret the error.
**Our Mission**

The Robert C. Byrd Institute for Advanced Flexible Manufacturing provides statewide and regional access to advanced technology and technical training to small- and medium-sized manufacturers. The mission of RCBI is to develop a quality, just-in-time, supplier base for the Department of Defense, the National Aeronautics and Space Administration and the commercial sector.