

## NCC AND COMPOSITES ONE ACMA HIGHLIGHTS

The National Composite Center (NCC) participated for the first time in ACMA's Composite 2005 trade show with Composites One, the Center's sole distributor of its Rapid Fiber Preforming technology for North America. Held Sept. 28 – 30 in Columbus, Ohio, the event drew record attendance of more than 4,000 visitors.

NCC showcased the broad range of critical technologies it uses to help customers bring products to market quicker. NCC booth traffic was high with significant interest shown in the Center's design optimization capabilities.

Composites One and NCC hosted a special preview event Sept. 29 at the Hyatt Regency Columbus to demonstrate the Center's preforming advances and talk about application development and technical support services. A number of visitors and show participants attended to learn more about how preforms can reduce costs and improve quality for molding processes.

The event included a special video highlighting NCC's Large Scale Preformer in action. Sample preforms and charts detailing the cost advantages of this technology were also on display. NCC and Composites One sales representatives will be following up on qualified leads generated by this event.



*NCC's preforming capabilities were demonstrated during special event at Composites 2005.*

NCC's staff of technical experts presented a series of papers. Dr. Bob Brannon, Manager of Thermoplastic Technology for NCC and partners Uday K. Vaidya, and Juan C. Serrano, Department of Materials Science and Engineering University of Alabama at Birmingham (UAB) and George Husman, Office of the Dean, School of Engineering, UAB presented Long Fiber Thermoplastic Composites For Automotive And Transportation Applications. "The

LFT paper was well received with more than 70 people attending," said Dr. Brannon. "This was a very good crowd. ACMA tends to focus heavily on Thermoset technology but LFT is gaining ground and acceptability as an alternative material."

A second paper, Robotic Preforms, was presented by NCC Project Managers Ela Kos and Ed Spangler and Sean Salmi, Molded Fiber Glass Research Company. Kos also moderated the Infrastructure Session during which she presented Innovative Pedestrian Bridge Design. Dr. Brian Knouff, Program Manager for NCC presented a paper on Design and Optimization of Composite Products.

In addition, two NCC employees – Jim Hickey and Dave Hartfelder – took the Certified Composites Technician Examination. Results will be announced in October's newsletter. NCC's technical staff was able to attend the trade show and learn more about their specific areas of interest. The Midwest show provides a unique opportunity for Ohio (which ranks first in composites) companies to attend, network and exchange expertise and ideas.

## NCC MAKES INTERNATIONAL CONTACTS AT COMPOSITES 2005, HOSTS CANADIAN GUESTS

NCC's participation in ACMA's Composite 2005 trade show netted



key contacts with business representatives from Europe and set the stage for the Center to host some 35 special guests from Canada. NCC staff coordinated the visit to encourage and advance economic development between Ohio and Canada.

A cross section of leaders from Winnipeg, Toronto and Montreal representing industry, universities and the Canadian Economic Development Office toured NCC and got a first hand look at the Center's critical capabilities. In addition, NCC arranged for NCC Member companies to participate in a networking opportunity with the assembly. Wayne Early, Executive Director for PolymerOhio further advanced networking connections between Ohio businesses and Canadian representatives by setting up additional meetings.

The Canadian group visited ACMA's Composite 2005 trade show and attended a special reception hosted by Lt. Governor Bruce Johnson. The visit produced key contacts for NCC which is expected to result in collaborations to be announced at a later date. Possible collaborations may also result from discussions between the group and several NCC member companies.

Canadian representatives' feedback regarding the activities was very positive. "The group felt the networking meeting and discussions that NCC coordinated for them went significantly above

and beyond their expectations," said Early.

"There's no doubt that these events will produce important benefits for all organizations involved," added Lou Luedtke, President and CEO of NCC.

### **NCC HIGHLIGHTS NEW MEMBER COMPANIES**

An integral part of NCC's continued efforts to grow the composite industry is its Member Program. In addition to Shared Technology Development Projects, the program puts the Center's unique production capabilities and application expertise at member companies' fingertips. Other key advantages include:

- Composites Manufacturing Clearinghouse
- Subcontract NCC Project Work To Members
- Referral Of Manufacturing Opportunities
- Introduce Product
- Inventors To Members
- Promoter/Facilitator Of Teaming Arrangements
- Industry/University For Government Research Grants
- Cross-Industry Consortia
- Neutral Development Site

Iten Industries, based in Ashtabula, Ohio, is an ISO9001 registered, integrated manufacturer of thermoplastic and thermoset stamped, molded and machined

plastic parts. Iten is a U.L.® recognized fabricator-molder of thermoset and thermoplastic parts as large as 70 ounces with machine capacities up to 500 tons and produces its own Underwriters Laboratories Inc.® recognized Resiten® NEMA grade industrial laminates and Politen® glass polyester sheets and pultrusions. Founded in 1922, Iten has more than 300,000 square feet of manufacturing space over three operating plants located in Ashtabula.

Iten holds numerous certified supplier certificates, "The Hammer Award" from the Federal EPA for voluntary participation in the 33/50 emissions reduction program and the "Green Buckeye Award" from the State of Ohio Chamber of Commerce for compliance with underground storage tank regulations. To learn more about Iten visit [www.itenindustries.com](http://www.itenindustries.com).

Georgia Aerospace Systems Manufacturing (GASM) is a leader in the dynamic and rapidly growing area of advanced composites. Based in Atlanta, Georgia, GASM's proprietary materials and manufacturing processes have both civilian and military applications. GASM products are used in military aircraft and armaments, homeland security systems, commercial airlines and regional jet; satellites and launch vehicles. GASM composites are used in high performance automotive vehicles as well as naval vessels and marine structures. The company is the



leading low-cost independent supplier of custom designed composite materials and structures and is involved in the commercialization of cutting edge composites like carbon nanotubes. GASM is the 2005 winner of the Georgia Minority Small Business Award. To learn more about GASM visit [www.georgiaaerospace.com](http://www.georgiaaerospace.com)

## **NCC REFINES AND ADVANCES 2PHASE TECHNOLOGY**

NCC has refined and advanced its 2Phase technology to produce rapid prototype parts and molds for demanding composite applications with high quality requirements. Faster processing time provides an average of about 40 minutes from the time the process is initiated to the time the tool pattern hardens.

The technology's tool bed offers improved conformable capability. NCC is planning to increase the size of the tool bed to mold bigger parts. The Center expects to offer customers a tool bed size approximately six feet by eight feet by two feet deep. NCC's objective in design is to be able to provide a part in about a week using the 2Phase technology.

## **NCC'S DR. BOB BRANNON GIVES TALK IN DALLAS WITH VECTOR AND UAB**

Dr. Bob Brannon, Manager of Thermoplastic Technology for NCC, presented a paper titled

Applications of Long Fiber and Continuous Fiber Thermoplastic Composites at the Aerospace Manufacturing and Automated Fastening Conference & Exhibition.

The exhibition was held October 3-6, 2005 in Dallas, Texas. The Society of Automotive Engineers (SAE) has merged the Aerospace Manufacturing Technology Conference (AMTC) with the Aerospace Automated Fastening Conference (Aerofast) to create this new, exciting event. Compelling technical sessions and a dynamic exhibit will enable attendees to explore the latest in both sub-assembly and final assembly technologies and processes.

"My presentation was accompanied by two other papers," Dr. Brannon explained. "Vector Composites Vice-President Dave Sabol gave a talk called Long Fiber Thermoplastics in High Volume Defense Applications. Dr. Uday Vaidya, University of Alabama at Birmingham (UAB), presented Process Modeling and Simulation of Long Fiber Thermoplastics with Ribs and Complex Structures. Together, the three papers painted a strong picture of Long Fiber Reinforced Thermoplastics (LFT) technology at NCC, Vector and UAB. We were able to demonstrate the flow of research at UAB, NCC and Vector from idea to concept modeling, material selection, prototype molding and final testing. The session was very well attended."