

## **Dynamics of Composites Manufacturing: Tutorial through Live Demonstrations**

June 2-3, 2009

(optional tours June 1)

Seattle, WA (Lynnwood Convention Center)



Nearly 40 participants joined together in June for this event. All survey respondents noted that the event was a “very good” or “excellent” experience. Respondents also noted that the panel discussions and live demonstrations provide a great learning opportunity.

Here is what attendees said:

“This seminar was extremely educational to me and will definitely benefit our company. I thank the ACMA and all the sponsors for their work on this.”

“Very impressive demonstrations of composite parts production, conducted in a comfortable and clean atmosphere.”

Please find information on this event is below. For more information on this and other ACMA events, contact ACMA at [events@acmanet.org](mailto:events@acmanet.org) or 703.682.1663.

### **About the Workshop**

ACMA, in conjunction with Platinum Sponsors Composites One and Magnum Venus Plastech, is pleased to offer the Dynamics of Composites Manufacturing Conference, which was postponed last fall. Now scheduled for June 2-3, 2009, it will offer the same programming of live demos, including vacuum bagging, vacuum infusion and RTM technologies. You’ll enjoy the same format as the hands-one conference that was so successful when first held last spring in Dayton.

Given today’s dynamic economy and ever-changing environmental laws, would the closed-mold process work better for you? Answer this question and explore new directions in composites manufacturing at this ACMA workshop and tutorial!

- Choose from a menu of fascinating live demonstrations, from vacuum bagging and vacuum infusion to RTM technologies
- Explore a showcase of products and services from industry exhibitors
- Make new contacts and network at an opening reception, relaxed lunch breaks and tours of local Delta Marine and Janicki Industries plants.

Don't miss your chance to take part in 2 1/2 action packed days of education, demonstrations, tours, and networking with peers/suppliers.

### **Back by Popular Demand**

More than 160 composites industry professionals participated at the National Composites Center in Dayton, Ohio. The conference was such a success that we are bringing the same show to Seattle!

"The quality of this show was second to none...We have considered looking at RTM in the past and had decided against it. My plant manager, who attended the show, was convinced that we should revisit RTM based on what he saw at this conference."

*Bob Hahn, Heil Process Equipment, LLC.*

## **Agenda**

### **Monday, June 1 – Optional Preconference Tours**

**1:00 pm – 5:00 pm**

#### **Tours of Delta Marine or Janicki Industries**

Attendees must register for these tours in advance. Additional registration fee required.

### **Tuesday, June 2**

**8:00 am**

#### **Registration Open and Coffee**

**9:00 am – 9:45 am**

#### **Lean Manufacturing**

*Presented by Pete Yakachuk ,CCT, Lean Black Belt- Lean Coordinator & Darren Bassett, Operations Manager, Formashape, a Division of Whitewater Composites*

Learn how Lean Manufacturing, combined with Closed Mold Processes, can help your organization focus on enhancing quality, cost, delivery, safety, and employee morale. This session explores ways to eliminate waste from Defects, Motion, Transport, Overstock, In-Appropriate Processes, Waiting, and Underutilization of Human Resources.

**10:00 am – 10:45 am**

#### **Advanced Controls for Closed Molding – A Practical Demonstration of the Most Advanced Technology Today**

*Andrew Hedger, RTM Specialist, Magnum Venus Plastech*

Gain unique cost-saving know-how on the latest controls for closed mold applications, such as L-RTM, CCBM and VIP. Those involved and interested in RTM technology will see how system controls can reduce resin usage and waste, which converts directly to the bottom line. Highlights learned from the demonstration include affordable automation, programmable menu driven injection shots, benefits of automation through programmable catalyst ratio change and precision automated injection control. MVP will also showcase many of the ancillaries' items that are available today which complement the automated features demonstrated.

**11:00 am – 11:45 am**

#### **How to Build a Closed-Cavity Bag Mold (CCBM)**

*Leif Beiley, West Region Technical Support Manager, Composites One*

Closed-Cavity Bag Molding (CCBM) is a patented vacuum infusion system utilizing a durable, reusable silicone vacuum bag. This demonstration covers the various stages of silicone bag building and highlights advanced techniques of CCBM. You'll leave with an understanding of why vacuum bagging has been the choice for high-tech industries such as aerospace manufacturing and specialty products.

**12:00 pm- 1:45 pm**

#### **Exhibits & Lunch**

**2:00 pm – 2:45 pm**

**Advanced Kit Cutting Techniques**

*Tom Hunter, Kit Concepts Technical Sales Representative, Composites One*

Discover how glass kiting can reduce costs and save time, and learn the advantages of Glass Kits in reducing waste. You'll gain an understanding of the potential efficiencies through nesting software.

**3:00 pm – 3:45 pm**

**Advanced Techniques in Vacuum Infusion**

*Leif Beiley, West Region Technical Support Manager, Composites One*

See first hand why the vacuum infusion process saves time and money while providing a more environmentally-friendly work place. Learn about vacuum infusion at the next level, specifically what to consider when converting to infusion; how to design the flow; and eliminate "close-outs" using the Three Variables in Darcy's Law.

**4:00 pm – 4:45 pm**

**Advanced Techniques of Light RTM**

*Doug Smith, President RTM North & Leif Beiley, West Region Technical Support Manager, Composites One*

Light RTM is a vacuum-assisted RTM (Resin Transfer Molding) low-pressure resin injection system. Learn how to troubleshoot problems that arise in the process and learn about new technologies and resins that benefit this process. Also learn why Light RTM is transforming the industry with this cost-effective, time saving process, which offers a cleaner, friendlier work environment. Watch a demonstration of the process and learn how it can be adapted to many types of parts. You will also learn how pre-cut kits are a natural fit for a process like this and why the right equipment is essential to the success of your Light RTM project.

**5:00 pm- 6:30 pm**

**Exhibits & Networking Reception**

**Wednesday, June 3**

**8:30 am**

**Coffee Available**

**9:00 am – 9:45 am**

**Economics of Closed Molding**

*Leif Beiley, West Region Technical Support Manager, Composites One*

Do the economics of closed mold processes have you thinking? Learn the investment facts about processes like LRTM, VIP and CCBM through real-time case studies and examples. Find out why closed mold is a sound economic decision for many manufacturers today and learn why it may be a sound decision for the future of your business.

**10:00 am – 11:30 am**

**Just the Facts: What it takes to have a Closed Molding Shop (Panel Discussion)**

*Moderator: Larry Cox, Director of Education, ACMA*

*Leif Beiley, West Region Technical Support Manager, Composites One*

*Doug Smith, President RTM North*

*Andrew Hedger, RTM Specialist, Magnum Venus Plastech*

*Pete Yakachuk, CCT, Lean Black Belt- Lean Coordinator, Formashape*

*Mike Zaccardo, Manufacturing Engineers, Janicki Industries*

An interactive Q&A with the presenters designed to discuss the ideal closed-molding shop, as well as answer questions from you. Bring your questions and concerns!

**11:30 am- 1:30 pm**  
**Exhibits & Lunch**

**1:30 pm**  
**Conference Concludes**

*\*\*Schedule, topics and speakers subject to change*

## **Exhibitor Listing**

### **American Colors, Inc.**

1110 Edgewater Dr.  
Sandusky, OH 44870  
Phone: 470-788-9133  
Email: [bussw@earthlink.net](mailto:bussw@earthlink.net)  
Website: [www.americancolors.com](http://www.americancolors.com)

American Colors manufactures premium quality liquid pigment dispersions. Vehicles include: aqueous, epoxy, plasticizer, polyester and urethane to name a few. We can custom formulate to meet a specific need and we encourage direct access to our laboratory personnel. We will produce any color utilizing the finest technical equipment available. Locations: Ohio, Tennessee, Florida and Shanghai, PRC.

### **Ashland Distribution**

PO BOX 2219  
Columbus, OH 43216-2219  
Phone: (714)571-4741  
Email: [brjones@ashland.com](mailto:brjones@ashland.com)  
Website: [www.ashland.com](http://www.ashland.com)

Ashland Distribution composites assists with resin, gelcoat, reinforcement, catalyst, core, adhesive and other product and business support needs. We are committed to long-term partnerships, offering a highly experienced support team, advanced inventory management systems, ISO certification and the most comprehensive North American distribution service network in the industry.

### **CHOMARAT North America**

2901 New Pond Rd.  
Anderson, SC 29624  
Phone: 866-531-7604  
Email: [John.Leatham@chomaratna.com](mailto:John.Leatham@chomaratna.com)  
Website: [www.chomarat.com](http://www.chomarat.com)

Manufacturer of Reinforcements: glass, aramid, carbon, multiaxials. Rovicore for RTM. Combination products and sandwich complex's for FRP Industry.

### **Colbond Inc.**

PO Box 1057  
Enka, NC 28728  
Phone: 317-376-2026  
Fax: 317-376-2026  
Email: [rod.fleming@colbond.com](mailto:rod.fleming@colbond.com)  
Website: <http://www.colbond-usa.com>

Colbond manufacturers multi-dimensional flow media products. The Colbond product line has its basis in a unique configuration of random monofilaments that are fused together to form a very open unencumbered structure. This 3-dimensional matrix structure can be used as a flow medium for Infusion, RTM and VARTM manufacturing.

### **Composites One**

85 W. Algonquin Road

Suite 600

Arlington Heights, IL 60005

Phone: 800-621-8003

Email: [moffner@compositesone.com](mailto:moffner@compositesone.com)

Website: [www.compositesone.com](http://www.compositesone.com)

Composites One is the nation's largest composites distributor. Composites One likes to think of itself as a member of our customer's team - always there when assistance is needed - we have the industry's most complete product line, along with the technical know-how and market experience necessary to guarantee your success. We offer unmatched regulatory assistance, process and applications audits, productivity solutions and online business-to-business capabilities with [b2bcomposites.com](http://b2bcomposites.com), and much more. The Power of One. Composites One.

### **Edmonds Community College**

515 Homeland Dr.

Edmonds, WA 98020

(425) 640-1840

Email: [mbredeso@edcc.edu](mailto:mbredeso@edcc.edu)

Website: [www.edcc.edu](http://www.edcc.edu)

### **Magnum Venus Plastech**

5148 113th Ave. North

Clearwater, FL 33760

Tel: (727) 573-2955

E-mail: [info@mvpind.com](mailto:info@mvpind.com)

Magnum Venus Plastech will showcase in their booth, and during live demonstrations with Closed Mold Alliance partners, new innovative systems for LRTM which meet the industry demand for better precision and efficiency in closed mould production. M.V.P. is the world leading manufacturer of composites processing equipment, and has an extensive line of products that cover the process from chop & gel to Light RTM/Infusion to advanced applications such as filament winding. To learn more about M.V.P. products and training visit [www.mvpind.com](http://www.mvpind.com).

### **Materials Process Development Center of Excellence**

9901 24th PI West

Everett, WA 98204

Phone: 425.267.5731

Email: [mbredeso@edcc.edu](mailto:mbredeso@edcc.edu)

Website: [www.the-mpdc.com](http://www.the-mpdc.com)

The Center of Excellence for Materials & Process Development is a partnership between Edmonds and Everett Community Colleges, serving all of Washington State with regard to careers in aerospace and advanced materials manufacturing. The MPDC offers the state's technical and community colleges a single and reliable source for industry information and education, and strives to place a highly-skilled workforce within the advanced manufacturing industry.

### **Skagit Valley College**

1900 SE Pionner Way

Oak Harbour, WA 98277

Email: [ann.avary@skagit.edu](mailto:ann.avary@skagit.edu)  
 Website: [www.skagit.edu](http://www.skagit.edu)

## Hotel Information

Marriott Courtyard Seattle North  
 4220 Alderwood Mall Blvd  
 Lynnwood, WA 98036  
 Phone: 425-670-0500

The conference will take place at the Lynnwood Convention Center:  
[Lynnwood Convention Center](#)  
 3711 196th Street S.W.  
 Lynnwood, Washington 98036

## Exhibitor/Sponsor Information

\*Lunches and a reception are held in the exhibit hall, maximizing your time with exhibitors.

### Exhibitors

- Ashland
- Axel
- Colbond
- Fiber Glass Industries
- Multiax CNC Inc.
- Composites One
- American Colors Inc.
- CHOMARAT North America
- Edmunds Community College
- Magnum Venus Plastech
- Skagit Valley College

### Exhibit Hours

#### Tuesday, June 2

12:00 p.m. - 1:45 p.m. Exhibits & Lunch  
 5:00 p.m. - 6:30 p.m. Welcome Reception

#### Wednesday, June 3

11:30 p.m. - 1:30 p.m. Exhibits & Lunch

Thank you to our sponsors!				
<b>Platinum Sponsors</b>	 COMPOSITES ONE		 Composites One • RTM North MVP • FormaShape	
<b>Sponsors</b>	Edmunds Community		Skagit Valley College	

	College			
--	---------	---	--	---

Interested in becoming an exhibitor and/or sponsor? Take a look at the [Exhibit and Sponsor Prospectus](#) and [Exhibitor Rules and Regulations](#) or contact Ryan Brown via phone: 703-682-1673 or [email](#).

For more information on this and other ACMA events, contact ACMA at [events@acmanet.org](mailto:events@acmanet.org) or 703.682.1663.