



FLY AWAY WITH COMPOSITES

November 6-7 • Davis Technical College • Clearfield, UT

Join Composites One and the Closed Mold Alliance, in partnership with IACMI - the Composites Institute, at Fly Away with Composites! This workshop is focused on exploring advanced materials and processes used in advanced composites markets like Aerospace and Consumer Recreation.

Workshop Location:

Davis Technical College - Freeport West Campus
D-5, Clearfield, UT 84015



Parking and Shuttles

Parking is limited at workshop site. Shuttle service will be provided between the Hilton Garden Inn - SLC / Layton and Davis Technical College Freeport West Campus. Detailed shuttle information can be found within the agenda.

Networking Reception:

Join us for a networking reception and supper-by-the-bite from 5:30 p.m. - 8:30 p.m. on Wednesday, November 6. Network with Fly Away with Composites presenters and attendees and continue conversations from the workshop!

Davis Conference Center Center (Located inside the Hilton Garden Inn - SLC / Layton)
1651 N 700 W
Layton, UT 84041

REGISTER TODAY AT WWW.IACMI.ORG/FLYAWAY

SPONSORED BY:



Ultimaker



PRESENTED BY:



Shuttle Schedule: Wednesday, November 6

Shuttles will be available to Davis Technical College Freeport West Campus from the Hilton Garden Inn SLC / Layton. Please see the shuttle times below. Parking at the Freeport West Campus is extremely limited. Please take these shuttles to avoid any travel delays. Shuttles will also be available throughout the day should you have to leave early.

Hilton Garden Inn SLC / Layton
762 West Heritage Park Blvd
Layton, UT 84041

7:45 a.m., 8:00 a.m., 8:15 a.m., 8:45 a.m.

- 8:30 a.m. Breakfast and Networking**
- 8:50 a.m. Agenda Review:** James Jones, Lead Technical Support Manager, Composites One
- 9:00 a.m. Composites for Executives**
This session is a high level overview of advanced composite materials and applications for the non-technician. It covers the features and benefits of advanced composite materials versus traditional construction materials. Concepts, constituent materials, and processing methods will be covered in this session.
Presented By: Wes Hobbs, M. Ed., Lead Composites Instructor, Davis Technical College and James Jones, Lead Technical Support Manager, Composites One
- 10:00 a.m. Tooling Technologies for Composite Manufacturing**
There are a variety of tooling materials used for manufacturing composites tailored to the needs of prototypes and short runs. This session will cover the use of cost-effective soft tooling for master models, direct tools, high temp curing and thermoforming.
Presented by: Scott Anderson, Senior Materials Engineer; Craig Keighron, Business Development Manager – General Plastics
- 10:30 a.m. Break - Visit Our Sponsor Tables!**
- 10:45 a.m. Infused Carbon Fiber Tooling**
Vacuum Infusion Processing (VIP), sometimes referred to as VARTM, is a viable option for constructing cost effective tools capable of 350F service temperatures. This demonstration will showcase the production of a carbon fiber/epoxy mold using Chomarat's C-weave carbon fiber, Vectorply's C-4QX 9400 quadraxial carbon fiber tooling fabric, and Endurance Technologies' 4000 series epoxy infusion resins.
Presented By: Chris Mikesell, Sales Manager - Carbon, Chomarat; Mike Ditzler, Field Engineer, Vectorply; Juan Juarez, National Sales Manager, Edurance Technologies; and Neil Smith, Technical Support Manager, Composites One
- 11:30 a.m. Innovative Finishing Solutions for 3D Printed Molds, Tools and Parts**
This presentation will take attendees from an overview of current polymeric large scale 3D printing to an in-depth presentation of proven finishing methods for enhancing surface cosmetics, ensuring vacuum integrity of 3D printed tools and parts, and filling in defects due to starts/stops with the use of innovative coatings from TruDesign.
Presented By: Rick Pauer, Applications Manager, Polynt Composites USA and Neil Smith, Technical Support Manager, Composites One
- 12:00 p.m. Can 3D Printing Make Functional Parts? An update on 3D printing and how materials like XStrand are improving performance**
3D Printing is making major progress with producing good looking parts. But are they functional? We will look at the methods of 3D printing, 3D materials, and the applications that are finding real performance from composite materials like Owens Corning Xstrand and other composite thermoplastics. We will also show how 3D printing applications are complimenting the tooling process for composites.
Presented By: Greg Elfering, Vice President of Key Account Sales, Ultimaker

- 12:30 p.m. Lunch**
Improved Process Operations, Personnel and Automation for Efficiency in Composites Manufacturing
Improved production efficiency is required to grow advanced composites material use beyond its current level. Taking incremental steps in production improvement, personnel training, material handling, and reducing waste can continue to make composites cost competitive. This session will cover how to make operational improvements by utilizing technology to increase production accuracy, automate processing, decrease waste, and lower production cost.
Presented By: Andrew Pokelwaladt, Director - Certification, ACMA
- 1:15 p.m. Low Temperature Prepreg Tooling Systems**
Low temperature curing tooling prepregs allow the cost effective construction of accurate tools for molding prepreg parts. This session will explore Solvay's LTM prepreg options in traditional and their labor saving Dform formats. A side-by-side demonstration will show the labor saving benefits of Dform over traditional prepreg formats.
Presented By: Matthew Parmental, Advanced Composites Application Specialist, Composites One and Barry Wilson-Smith, Technical Support Manager, Composites One
- 2:15 p.m. Epoxy Sheet Molding Compound (SMC) and Bulk Molding Compound (BMC)**
Sheet molding compound (SMC) and bulk molding compound (BMC) formats give manufacturers the ability to make accurate composite parts in high volumes. Lattice Composites epoxy based glass fiber and carbon fiber compounds are single component systems engineered to replace traditional composite and metals in structural applications. They are designed to combine ease of processing with superior mechanical properties.
Presented By: Ruchir Shanbhag, President, Lattice Composites
- 2:45 p.m. Break - Visit Our Sponsor Tables!**
- 3:00 p.m. Thermoplastic Composites**
A fact-filled review of the manufacture of parts using fiber reinforced thermoplastics. Glass and carbon reinforced polypropylene, PETG, and nylon will be reviewed. Discussion will include tooling and processing of thermoplastics as well as automation of the manufacturing process. Various thermoplastic sample parts will be on hand.
Presented By: Matt Christensen, COO, Oribi
- 3:30 p.m. Low Melt PAEK Prepreg for Improved Processing of Thermoplastic Composites**
A new low melt PAEK prepreg is available for making parts at processing temperatures 55°C lower than traditional PEEK thermoplastics. This is an enabling prepreg for fabricating parts via stamp forming, out of autoclave consolidation and in-situ fiber placement. PAEK prepreg is produced in all forms, including fabrics, UD tapes, slit tapes and bulk molding compounds. Toray has worked with NCAMP to produce the first publicly available database for thermoplastics, namely T700/TC1225 UD prepreg.
Presented By: DeWayne Howell, Senior Applications Engineer, Toray Advanced Composites
- 4:00 p.m. Infusion for Aerospace**
Vacuum Infusion Processing (VIP), know by many other acronyms, has become a viable option in manufacturing aerospace composites. It provides several benefits over autoclave molded prepreg reinforcements, especially for large, complex structures. This session will provide an overview of infusion theory and highlight several aerospace applications of the process and its variants.
Presented By: Neil Smith, Technical Support Manager, Composites One
- 4:30 p.m. Q&A:** James Jones, Lead Technical Support Manager, Composites One
- 4:45 p.m. Return Shuttles**
Return shuttles will be available to the Hilton Garden In SLC / Layton. Please see the shuttle times below. Shuttles will also be available throughout the day should you have to leave early.

Shuttle Departure Times: 4:45p.m., 5:00 p.m., 5:30 p.m
- 5:30 p.m. Networking Reception**
Network with Fly Away with Composites attendees and presenters and enjoy refreshments and heavy hors d'oeuvres.

Davis Conference Center
1651 N 700 W
Layton, UT 84041

Step into the workplace at some of Utah's most interesting advanced manufacturing sites! We are excited to offer industry tours on Thursday, November 7, following the Fly Away with Composites workshop!

Tour A:

Boeing Commercial Airplanes

Salt Lake City Airport Manufacturing Site. This location assembles composite components for the Boeing 787 empennage and makes many parts for other Boeing commercial airplanes. Limited to U.S. Citizens only.

Tour B:

ENVE Composites

ENVE is a manufacturer of high-end, lightweight, carbon fiber bicycle wheels and components used by famous riders across the world. They manufacture everything in the USA at their Ogden, Utah facility.

Tours will leave at 8:30 am from the Hilton Garden Inn SLC/Layton. Each tour is limited to the first 35 participants and participants must register ahead of time with their name and company/institution affiliation for security purposes. Tours will return to the Hilton by approximately 11:00 a.m.

Please note that there are Foreign National limitations and all tour participants must be U.S. Citizens. For more information please contact tmartin@IACMI.org.

To register for the industry tours visit www.iacmi.org/flyaway