COMPOSITES CONVENTION
JUNE 12TH-13TH, 2019
STADE, GERMANY

FUTURE FACTORY FOR COMPOSITES

ORGANIZED BY:
CFK VALLEY e.V. & CARBON COMPOSITES e.V.

PARTNER NETWORK:

COOPERATION PARTNERS:

SPONSORED BY:
AIRBUS

PARTNER COUNTRY:
USA

WWW.CFK-VALLEY.COM
DEAR COMPOSITES ENTHUSIASTS,

The Composites Convention 2019 has made the ‘Future Factory For Composites’ its theme and will be organized with the partner country USA. Our partner network UAMMI (Utah Advanced Manufacturing and Materials Initiative) is characterized by a high degree of parallelism to CFK Valley e.V. and Carbon Composites e.V. regarding the framework conditions and the general focus. The world’s leading aircraft manufacturers are active at both locations and we share the same service philosophy for our members as well as the same passion for composites and innovation.

After visits of Dr. Brenken in 2018 and myself in 2019 in Salt Lake City, a very pleasant and trusting cooperation with the UAMMI bosses Jeff Edwards and Brent Strong developed very quickly. We look forward to the joint organization of the Composites Convention 2019!

The USA has the world’s largest carbon fiber production and is home to the world’s top aerospace companies. I therefore see a number of cooperation opportunities at eye level. The topic of education and training is particularly close to my heart. We have already exchanged ideas on this and have a good plan.

We therefore do not only have an outstanding program, but also first-class partners with whom we want to start a wonderful friendship and cooperation with the Composites Convention. I would particularly like to mention the first-time organization together with Carbon Composites e.V., for which I would like to thank Mr. Stefan Steinacker in particular.

Look forward with me to a special convention with a top-class program, excellent partners and of course a special evening event, this time in Hamburg!

Best regards

Gunnar Merz

CFK Valley e.V. – CEO
**PROGRAM DAY 1**

**PART 1: OPENING**

**SECTION FROM TO TOPIC**

<table>
<thead>
<tr>
<th>Welcome</th>
<th>8:15</th>
<th>9:00</th>
<th>Registration &amp; Check-in</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opening</td>
<td>9:00</td>
<td>9:05</td>
<td>Opening/Welcome</td>
</tr>
<tr>
<td>Politics</td>
<td>9:10</td>
<td>9:20</td>
<td>Greetings</td>
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<tr>
<td>Politics</td>
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<td>9:30</td>
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<td>9:35</td>
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<td>Keynote</td>
<td>9:45</td>
<td>10:00</td>
<td>Keynote 1</td>
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<td>10:00</td>
<td>10:15</td>
<td>Keynote 2</td>
</tr>
<tr>
<td><strong>BREAK</strong></td>
<td>10:15</td>
<td>10:45</td>
<td>Networking Break &amp; Exhibition</td>
</tr>
</tbody>
</table>

**PART 2: FUTURE FACTORY AND SUSTAINABILITY**

**SECTION FROM TO TOPIC**

<table>
<thead>
<tr>
<th>Session 1</th>
<th>10:45</th>
<th>11:00</th>
<th>Eco-Efficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Session 1</td>
<td>11:00</td>
<td>11:15</td>
<td>Energy savings</td>
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<tr>
<td>Session 1</td>
<td>11:15</td>
<td>11:30</td>
<td>Carbon Footprint</td>
</tr>
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<td>Podium</td>
<td>11:30</td>
<td>12:00</td>
<td>Sustainability in the Composite Industry</td>
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<tr>
<td><strong>BREAK</strong></td>
<td>12:00</td>
<td>13:00</td>
<td>Lunch Break (Finger Food), Networking &amp; Exhibition</td>
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</tbody>
</table>

**PART 3: EMPOWERMENT THROUGH SIMULATION 1**

**SECTION FROM TO TOPIC**

<table>
<thead>
<tr>
<th>Session 2</th>
<th>13:00</th>
<th>13:15</th>
<th>Virtual Process Development 1</th>
</tr>
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<tbody>
<tr>
<td>Session 2</td>
<td>13:15</td>
<td>13:30</td>
<td>Virtual Product Development</td>
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<tr>
<td>Session 2</td>
<td>13:30</td>
<td>13:45</td>
<td>Virtual Process Development 2</td>
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<tr>
<td><strong>BREAK</strong></td>
<td>13:45</td>
<td>14:00</td>
<td>Networking Break &amp; Exhibition</td>
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**PART 4: EMPOWERMENT THROUGH SIMULATION 2**

**SECTION FROM TO TOPIC**

<table>
<thead>
<tr>
<th>Session 2</th>
<th>14:30</th>
<th>14:45</th>
<th>Virtual Cost Modelling</th>
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<tbody>
<tr>
<td>Session 2</td>
<td>14:45</td>
<td>15:00</td>
<td>Virtual Safety Modelling</td>
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<td>Session 2</td>
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<td>15:15</td>
<td>Virtual Factory</td>
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<tr>
<td><strong>BREAK</strong></td>
<td>15:15</td>
<td>15:45</td>
<td>Networking Break &amp; Exhibition</td>
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**AWARD**

16:10 PFH Student Project
Matteo Blaask, Nick Niedermayer
**Highlights of Innovative PFH Student Projects**

16:10 PFH Student Project
**Ephemeron - Preparing for Maiden Flight**

16:10 PFH Student Project
**CFK Valley Innovation Award**
Moderation

**PART 5: EVENING EVENT**

19:00 22:00 **Evening Event with Dinner**
Moderation

Transfer to the Evening Event at the Hamburg Harbour (www.altonaer-kaispeicher.de) is organized.
**PART 1: OPENING**

**SECTION** | **FROM** | **TO** | **TOPIC** | **SPEAKER** | **TITLE**
---|---|---|---|---|---
Welcome | 8:15 | 9:00 | Doors open | | |
Opening | 9:00 | 9:05 | Opening | Dr. Gunnar Merz (CEO, CFK Valley e.V.) | |

**PART 2: ENABLEMENT THROUGH AUTOMATION**

**Session 3** | **09:05** | **09:20** | Automated Profile Production | Jerome Berg (Northrop Grumman Innovation Systems) | Novel and Cost Effective Manufacture of Aircraft Stringers and Frames
---|---|---|---|---|---
**Session 3** | **09:20** | **09:35** | Manufacturing Execution Systems | Dr. Gregor Graßl (FFT Produktionssysteme GmbH & Co. KG) | Manufacturing Execution System Enabling Smart Production Control
---|---|---|---|---|---
**Session 3** | **09:35** | **09:50** | Data Ontology | Felix Schreiber (在我国) | Building Bridges - Process and Cost Benefits due to structured Machine Data in an automated RTM-Production Line
---|---|---|---|---|---
**Session 3** | **09:50** | **10:05** | Digital Twin | Stefan Etsner ( Bavarian Software GmbH) | A Digital Twin Architecture for Lightweight Constructions and CFRP
---|---|---|---|---|---
**BREAK** | **10:05** | **10:15** | Coffee Break | | |
**Session 3** | **10:15** | **10:30** | Modular Automation | Sascha Backhaus (ITC) | Modular Automation in Composite Manufacturing
---|---|---|---|---|---
**Session 3** | **10:30** | **10:45** | Automated Manufacturing | Uwe Lang (Evonik) | Sandwichtechnologie 4.0
---|---|---|---|---|---
**Session 3** | **10:45** | **11:00** | Automated Machining & Assembly | Christoph Britzinger (Fraunhofer IFAM) | Mobile Robots on the Shopfloor: MBFast18 - Redesigning large-scale Production
---|---|---|---|---|---
**BREAK** | **11:00** | **11:30** | Networking Break and Exhibition | | |

**PART 3: EFFICIENCY THROUGH SELF-REGULATORY PROCESSES**

**Session 4** | **11:30** | **11:45** | Intelligent Process Monitoring | Anna Pfleiderer (MT Aerospace AG) | Fiber Optic Sensing for intelligent Process Monitoring in large Composite Structures
---|---|---|---|---|---
**Session 4** | **11:45** | **12:00** | Predictive Control | Cristian Lira (The National Composite Centre Bristol UK) | Intelligent Control System for automated Composite Manufacturing
---|---|---|---|---|---
**Session 4** | **12:00** | **12:15** | Quality Control | Richard Vecke (Fibre) | Model-based Quality Control System for Thermforming of small Components
---|---|---|---|---|---
**BREAK** | **12:15** | **12:30** | Artificial Intelligence | Amir Ban-Asa (Plataine) | Implementing AI in Composites Manufacturing: Opportunities, Challenges & Best Practices
---|---|---|---|---|---
**Session 4** | **12:30** | **13:30** | Lunch Break (Finger Food), Networking & Exhibition | | |

**PART 4: FUTURE FACTORY EXPERIENCE FROM DIFFERENT APPLICATION AREAS**

**Session 5** | **13:30** | **13:45** | Novel Processes | Ferdinand Sull (Herone GmbH) | Utilizing organoTubes for large scale Production of complex thermoplastic composite profiles
---|---|---|---|---|---
**Session 5** | **13:45** | **14:00** | Aerospace Industry | Don Stobbe (ACT Aerospace) | Developing thermoplastic parts that replace metal parts in aircraft and exploring the future for similar parts in aerospace
---|---|---|---|---|---
**Session 5** | **14:00** | **14:15** | Automotive Industry | Dominik Metzger (BMW AG) | Predictive Surface Topography Assessment of Class-A CFRP Components produced with highly cost-efficient Processes
---|---|---|---|---|---
**Session 5** | **14:15** | **14:30** | Material Characterization | Mikhail Skliar (University of Utah) | Ultrasound Characterization of Spatially Distributed Properties in Echogenically Segmented Components
---|---|---|---|---|---
**Session 5** | **14:30** | **14:45** | Large-Volume Production | Bernd Demel (Gorbus Helicopters) | RTM Manufacturing on a new Level – Precise Composite Manufacturing and Industrialization of high Volume RTM Part Production
---|---|---|---|---|---

**PART 5: CLOSING**

**CLOSING** | **14:45** | **15:00** | Results of Convention: Expectations met? | | |
---|---|---|---|---|---
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All information is subject to change. Program online: www.cfk-valley.com
Jeff, many thanks for the interview. I look forward to the Composites Convention too and beyond!

and winter sports opportunities. On the other side Stade is close to Hamburg and interested in US G.M.: I think this would be a great idea! Our students would love Salt Lake City with the Rockies students to foster our education programs. What do you think?

I expect to do the same in the other direction. Exchange of technology, common research projects between UAMMI and CFK Valley. What will happen after the show?

The joint organization of Convention 2019 is just the beginning of a long-term cooperation G.M.: Overall the focus seems to be very strong on aerospace applications. What will we hear about further application areas?

J.E.: Utah is a great place for outdoor recreation. It has a wide variety of manufacturers of high-per formance composites for sports equipment including skis, snowboards, bikes and boats. We even have the leading producer for archery equipment for the US Olympic Team. On top of all this, we are active in high-pressure tank technology and medical devices including prosthetics and heart valves.

G.M.: The joint organization of Convention 2019 is just the beginning of a long-term cooperation between UAMMI and CFK Valley. What will happen after the show?

J.E.: Through our new partnership, UAMMI is glad to help CFK Valley members make new business connections in the USA and in particular in Utah. As CFK Valley becomes Composites United, I expect to do the same in the other direction. Exchange of technology, common research projects and common market development are important fields. Also, I think we should start an exchange of students to foster our education programs. What do you think?

G.M.: I think this would be a great idea! Our students would love Salt Lake City with the Rockies and winter sports opportunities. On the other side Stade is close to Hamburg and interested in US sports. There is a basketball team of VFL Stade which would be glad to get US-support.

J.E.: Perfect, let’s discuss this further! I look forward to being part of our first event together!

G.M.: Jeff, many thanks for the interview. I look forward to the Composites Convention too and beyond!
The Utah Advanced Materials and Manufacturing Initiative (UAMMI) brings together public, private, community, industry and education partners to assure growth and sustainability of Utah’s advanced material and manufacturing industry.

The mission of UAMMI is to ensure that Utah is the global leader in value-added advanced materials, manufacturing, technology development, and design by integrating industry, academic and government contributors in ways that enhance collaboration, promote business opportunities, share knowledge resulting from relevant research and engage a skilled and trained workforce. UAMMI was created in 2016 as part of a national network of 24 US manufacturing communities called the American Manufacturing Communities Collaborative (AMCC). Many of these communities have a similar focus on advanced manufacturing and how to expand those capabilities in the US, especially as it applies to aerospace and defense.

Located in the western United States, Utah is home to more than 100 companies and 12,000 workers that are involved in advanced materials including carbon fiber, ceramics and advanced alloys and processes such as automated composites manufacturing and 3D printing of carbon fiber and metals. Utah is a pioneer in composites as many of the processes used today in this industry were developed in Utah more than 50 years ago including filament winding and automatic tape laying and fiber placement. UAMMI as part of the US composites industry is a longtime member of the Society for Advanced Materials and Process Engineering (SAMPE), a partner with the Institute for Advanced Composites Manufacturing Innovation (IACMI), member of the American Composites Manufacturing Association (ACMA) and a new partner with CFK Valley in Germany.

Current projects include the development of a sophisticated supply chain database for advanced materials companies, demonstration of new processes for making carbon fiber using coal pitch, a new master’s degree in composites engineering, a US Small Business Administration regional innovation cluster manager, an advanced materials business accelerator for early stage companies, and a novel 3D printing process using carbon fiber.
**OVERVIEW OF THE GLOBAL COMPOSITES MARKET 2018-2023: CONTINUING GROWTH**

This JEC Group publication is an updated global composites market study, which provides a forecast growth up to 2023. This latest edition provides 2018 market data and a growth forecast to 2023. Essential market size information, trends and forecast growth figures are provided by key geographic regions and industrial sectors including aerospace, transportation and automotive, wind energy, marine, building and construction, ...

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**DON'T MISS OUR UPCOMING JEC COMPOSITES INTERNATIONAL EVENTS**

**JEC FORUM CHICAGO**
Conferences & Business Meetings
June 19-20, 2019  |  CHICAGO, IL, USA  |  Aon Grand Ballroom at Navy Pier

**JEC FORUM BANGKOK**
Conferences & Business Meetings
July 3-5, 2019  |  BANGKOK, Thailand  |  Chatrium Hotel Riverside

**JEC ASIA 2019**
International Composites Event
November 13-14-15, 2019  |  SEOUL COEX, REP. OF KOREA

**JEC WORLD 2020**
The Leading International Composites Show
March 3-4-5, 2020  |  PARIS-NORD VILLEPINTE

**www.jeccomposites.com**
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